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THE BULLETIN

OF THE ATOMIC SCIENTISTS



The *Bulletin* was founded in 1945 by Eugene Rabinowitch and Hyman Goldsmith.
The *Bulletin* clock, symbol of the threat of global catastrophe, stands at 17 minutes to midnight.

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Casting stones

A few days ago, I heard a commentary on National Public Radio in which Alberto Fujimori, president of Peru, was compared to H. Ross Perot, who seeks the top job in the United States. Both are businessmen, said the commentator, who made the "B" word sound as if it described something that should be scooped off the sidewalk and dumped into the trash. Fujimori, she said, lacked an understanding for the give and take of politics, because he came from the world of business. He finally lost patience with the slow pace of democratic reform, assumed dictatorial powers, and now he was wrecking Peru. Beware Perot; if elected, he would have a similar lack of patience with democracy.

Other than linking Fujimori and Perot, the commentator said nothing that hadn't been said thousands of times of late about the Peruvian leader. When Fujimori dissolved Peru's National Congress in April, suspended parts of the Constitution, and otherwise acted like a man who had lost his mind, he was condemned just about everywhere, except in Peru. It was a "sad day for anyone who believes in human rights," said the *Denver Post*. He had "betrayed the system that brought him to power," said the *Cleveland Plain Dealer*. He had made an "ugly power grab," said the *St. Petersburg Times*. It was a "brutal mugging of freedom," said Ted Kennedy.

Senator Kennedy and the others may be right. The future of Peru may be very dark, partly because of Fujimori's actions. But in reading the article on Peru by Michael Radu (page 16), as well as the essays by Steve Cohen (page 28) and Valeri Davydov (page 38), and the speech by Mikhail Gorbachev (page 22), it's hard not to think about the puzzling and elusive nature of this thing called "democracy," which Fujimori is said to have so meanly sabotaged.

Democracy is a grand word, with good associations. And yet, it's an oddly difficult concept to define operationally. When speaking of democracy, we may think warmly of Athens, while not dwelling overmuch on its slave-supported economy. Rousseau and his gentle ideas about the "general will" stir us still, but Robespierre, Rousseau's intellectual godchild, muddies the water. And in the United States, there's Tom Paine, Thomas Jefferson, and John Adams, not to mention Franklin D. Roosevelt, Dwight D. Eisenhower, and Martin Luther King. All had vigorous visions of what a democratic society should be, and all of these visions were significantly different.

Democracy does not come easily anywhere, including Peru, where there is little experience and tradition to build upon. And it may not come anytime soon in some of the fast-fracturing pastiche states of the Old World, in which an overall sense of community and shared values is too often lacking, and in which us-against-them nationalisms are again producing bloodshed. (As I write, the ancient and lovely city of Sarajevo is still under siege and its remaining residents are said to be eating dogs and cats and nearing starvation.)

Even in the United States, the balkanization of society continues apace. Pluralism is a wonderful idea—an imperative, really—when it means tolerance. But when it is interpreted, as it often is these days, to mean that groups of people can't effectively understand one another across racial, ethnic, and religious barriers, the idea and the practice of democracy tumbles into a deep pit.

Peru bleeds, as does the former Yugoslavia, as do parts of the former Soviet Union, and as does South Africa. Increasingly, the United States bleeds, too, although not yet as profusely as the others. The history of humankind suggests that democracy does not flower as easily as a front-yard perennial. It embraces a disparate and exceedingly fragile set of ideas and institutions, which require attentive nurturing. Perhaps Fujimori has made a very great mistake. But I'm not yet willing to cast stones his way.

—Mike Moore

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Tomahawk missile fired from U.S.S. Missouri on the first day of the Gulf War, January 17, 1991.

Truth and Tomahawks

On April 10, 1992, the *Washington Post* finally got around to covering a story that the *Bulletin* broke a year ago (July/August 1991): Fewer than 60 percent of Tomahawk cruise missiles launched against Iraq hit their targets. The *Post*'s Barton Gellman cited an unnamed source who told him, "The Tomahawks... hit their intended targets slightly more than half the time." Printed amid off-the-record and across-the-board revisions of high-tech weapon

performance—as the records of everything from the F-117 Nighthawk attack bomber to the Patriot air-defense missile were all scaled back—the story reveals more about the Pentagon's unwillingness to acknowledge the truth than the probable nature of future wars.

During the conflict, the United States launched 288 Tomahawks against about 50 targets. Navy officials were surprised that only six stuck in their tubes or

crashed during the tricky transition from boost phase to cruise flight. But they used specialized and confusing terminology in expressing that surprise to the news media, reporting that the Tomahawk was "more than 95 percent successful." In other words, 288 "fire" buttons had been pressed, and 282 missiles had disappeared over the horizon (or into the darkened sky in the 56 night launches). During the war, "mission success" claims ranged between 85

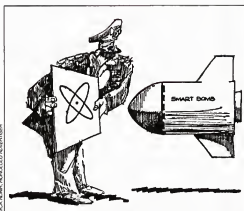
and 99.4 percent, although analysts admitted they had no data to support these claims.

On April 12, after the *Post* had belatedly confirmed the *Bulletin*'s story, Brent Scowcroft, President Bush's national security adviser, called the early estimates "hyperbole," setting the tone for the pundits' new take on wonder weapons: That Pentagon spokesmen had been overtaken by an understandable sort of boyish enthusiasm, but that we knew all along that the estimates were too high. The pundits chose to forget that when the Pentagon was questioned on its inflated statistics in 1991, the official response was one of incredulity or indignation.

Until recently, the navy wanted to believe the best about the Tomahawks—that they were both accurate and difficult to shoot down. When stories to the contrary began to emerge, navy officials reacted emotionally. Despite eyewitness accounts to the contrary, one navy source told *Navy News* and *Undersea Technology*, "No Tomahawk went off and did anything stupid like land a half-mile away from a target." Another told *Navy News* that the *Bulletin*'s source, who gave "a success rate no higher than 60 per-

**"Sure
France has a
moratorium—
so what?"**

—Energy Secretary
James Watkins,
responding to a question
from Cong. Jon Kyl
during testimony before
the House Armed Services
Committee, April 28, 1992.



DOUG KRAIG, ROCKWELL INTERNATIONAL

cent" was "flat out wrong.... [It was] a helluva lot better than 65 percent."

In official statements, the navy reluctantly admitted that one Tomahawk might have been shot down. Later, when faced with undeniable evidence (including a contractor's admission that one Tomahawk had been found in the middle of the Saudi desert) and reports that others (as many as 23, according to the *Post* and Iraqi radio) had crashed into apartment buildings or landed in residential neighborhoods (one in a swimming pool), they attributed the misses to anti-aircraft fire deflecting the missiles.

Since the war's end, the Pentagon has released two "conduct of the war" (COW) reports, and the navy has circulated a fact sheet on the Tomahawk. If, as is now argued, the early exaggerations really were unintentional, more reasonable assessments should have turned up in these documents. Instead, the navy fact sheet, issued in June 1991, reiterated the claim that the Tomahawk had "an overall mission effectiveness rate of 84 percent." The first COW report, released in July 1991, stuck by the navy's story: "About 85 percent of the 288 missiles fired

during the war hit their targets." The second and final report, released on April 10, 1992, was more evasive, only comparing performance to planners' expectations, which were low, given the Tomahawk's high failure rates during a testing program that was notorious for its unrealistically favorable conditions. Thus, the Tomahawk "met or exceeded the accuracy mission planners predicted.... [and] demonstrated accuracy that was consistent with results from precombat testing." There was no hint that the navy's 84 percent or COW I's 85 percent constituted "hyperbole," as Scowcroft claimed on *Meet the Press* two days later.

Ironically, the military's confusing euphemisms for missing targets may have actually hindered the war effort. As early as June 1991, Michael C. Braunbeck, a navy commander, wrote in *Proceedings*:

"If you believed everything you read, the U.S. Navy sank the entire Iraqi Navy a number of times. Loose terminology also created confusion at a time when factuality was crucial.... It would be better to report 'target(s) missed' than pass 'hits in the target area.'... The impact of inaccurate reports must be prop-

erly weighed against submitting ambiguous reports."

In other words, using terms like "overall mission effectiveness" and "mission success" not only misled the public, it confused the military planners themselves. This practice led to bombers attacking targets that had already been hit, according to *Time* (April 8, 1991), and left the lasting but mistaken impression that planners can now rely on "smart bombs" instead of the old-fashioned technologies that actually dominated the war—the carpet bombing that softened up the battlefield and the tanks that took charge of it.

—Eric H. Arnett

It's a bird— it's a plane— it's the black budget

Since the air force's last black-budget beastie, the Stealth bomber, was unveiled, it has left a trail of bills that now add up to \$32.2 billion per plane, or three times each plane's weight in 24-carat gold—not including the multi-billion dollar air-conditioned hangars the 20-plane fleet will require. Should wary taxpayers be expecting another bolt from the blue—or perhaps a "bolt from the black"?

Until recently, the air force flatly denied that another black-budget plane was in the works. However, observers at the U.S. Geological Service (U.S.G.S.), *Aviation Week & Space Technology*, and *Jane's Defence Weekly* all disagree. And residents of the San Gabriel Valley in California believe that a mysterious new supersonic aircraft is

roaring overhead, creating tremors and waves that rattle their windows—an experience that sends earthquake-nervous Californians for the door in fear of "the big one."

The Geological Service at Caltech, which monitors seismic activity, describes the activity pattern as a little too regular to be explained by earthquakes (*Los Angeles Times*, April 17, 1992). Five times in the last year a "mysterious rumble and bounce" has occurred, each time at about 7 a.m., and always on a Thursday morning.

"It's something traveling through the atmosphere at several times the speed of sound in a generally northeasterly direction," explained Jim Mori, a U.S.G.S. seismologist. Caltech has received calls from anxious residents from as far north as Sacramento.

Bill Sweetman, editor of *Jane's Defence Weekly*, fingers the new mystery plane as the Aurora, an experimental spy plane said to fly five to six times the speed of sound, or 3,500 to 4,000 miles per hour. He says the plane is listed in the Defense Department's budget schedule as "selected activities."

Aviation Week (May 11, 1992) says that evidence of the new plane has been mounting for over three years. A "pulsar" aircraft with an advanced propulsion system, the Aurora leaves a distinctive, segmented exhaust pattern, alternately described as a "donuts on a rope" or a "sausage link" trail. In March, an Amarillo, Texas photographer tried to capture the plane on film when he heard its pulsating roar but could not spot it in time. He did take pictures of the vapor trail.

On April 5 and April 27, radio hobbyists in southern California monitored transmissions between Edwards

Air Force Base and a high-altitude aircraft using the call sign "Gasppe." Each series of transmissions occurred at about 6 a.m., and clearly indicated that the plane was traveling well over the 50,000-foot limit observed by fighter aircraft.

Edwards Air Force Base has denied that any such communications took place. In mid-May, however, air force officials began to hedge with statements such as "I have nothing for you on that." Steven Aftergood of the Federation of American Scientists dubs such an ambiguity "a non-denial denial" (*Los Angeles Daily News*, May 21, 1992).

Russ Britt, a reporter for the *Los Angeles Daily News*, reports that the "aviation community" regards the Aurora as a replacement for the SR-71 Blackbird spy plane, and attributes its development to the "Skunk Works"—the Lockheed Advanced Development Co., which has managed to maintain 4,000 workers and \$752 million in annual revenue despite the termination of other Defense Department programs. Lockheed's recent responses to inquiries about the plane have been as coy as those of the air force.

In the *Secrecy & Government Bulletin* (May 1992), the Federation of American Scientists (FAS) says that rumors abound that the Aurora will soon be made public. Caltech's Mori tends to agree: "If they were really trying to keep this secret they wouldn't fly it over downtown L.A., over and over again." Another hint may have been dropped when a senior air force officer indicated that new construction at California's Beale Air Force Base signaled that it was scheduled for a significant new mission.

FAS, which has recently

10 years ago in the *Bulletin*

In the July 1982 *Bulletin*, Ralph S. Clem, a professor of geography, wrote pointedly about the potential for division in the Soviet Union, as in all multi-ethnic countries. He suggested that ethnic diversity was an important force shaping the country, and listed 51 of its 100 or so separate nationalities. Those most different from the "core" Russian group were on the borders of the Soviet Union, he said, precisely where their separateness would be most reinforced.

He speculated that a federation of ethnic territories, each with ethnic autonomy, may have been perceived by the founders of the Soviet Union as a way to keep the union from disintegrating. But it also safeguarded local education, native language rights, and provided for socio-economic development. He noted that the populations of "fringe" Central Asian and Caucasus nationalities were, by and large, growing much more rapidly than the Baltic and Slavic peoples, some of whose numbers were actually decreasing.

"After some 65 years of Soviet rule, the economic and social development fostered by the regime... has produced educated, urbanized, and politically mobilized non-Russian elites." In the future, these elites would be able to secure benefits for their regions—probably without harsh reprisals. Clem concluded that change in the Soviet Union would be evolutionary rather than revolutionary.

issued a report on black-budget aircraft, points out in the *Secrecy & Government Bulletin* that black programs historically have been used to avoid answering questions about expensive and politically unacceptable works: "Many black aircraft programs are designed only to penetrate congressional airspace."

—Linda Rothstein

Drumming up (military) business?

According to congressional testimony in March, the "3rd Special Forces Group"—a Green Beret unit—has been reactivated to come to the rescue of African nations in need of American military

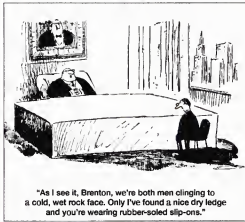
skills. The Bush administration says that African governments have been asking for aid from the Green Berets. That's understandable. The Pentagon has been using an "awareness campaign" to drum up business. The March 15, 1992 *Balti-*

more Sun quoted one official as explaining, "We're looking for opportunities."

This year Special Forces detachments have been involved in training local armies in Zimbabwe, Namibia, Niger, and the Ivory Coast. And about 50 Green Berets have been conducting counterinsurgency and weapons training in Senegal.

At a Senate Armed Services Committee hearing in early March, Special Operations commander Gen. Carl W. Stiner described the Green Berets as "non-intrusive assets... more acceptable to host nations than conventional forces." The Berets, said Stiner, also "project a positive impression of U.S. forces as a whole."

Meanwhile, the Special Forces are not the only U.S. troops active on the African continent. In January, "Operation Silver Eagle," a joint U.S.-Botswana military exercise included mock battles, parachute drops, and maneuvers to test the defense of strategic areas near the Botswana capital, Gaborone. And National Guard units from Illinois and Missouri, which are restricted to non-combat training, have been put to work building a \$300-million U.S. air



In brief

■ **Stung by Stinger.** The General Accounting Office continues to describe the Pentagon procurement process as a spending spree. In May GAO witnesses told Congress that Defense Department warehouses were stuffed with \$50 billion worth of excess or outdated equipment, and that in a single month—March 1991—the Pentagon spent another \$2.5 billion on unneeded items (*Federal Times*, May 11, 1992). The warehouses are so overloaded that equipment can't be found when it is needed. Sen. John Glenn, an Ohio Democrat, recalled that on one occasion, officials lost track of several hundred shoulder-fired Stinger missiles. They were convinced that the missiles had fallen into terrorists' hands or had been illegally diverted to the black market. Instead, the Stingers eventually turned up in an army warehouse in Europe, where they had been shipped by mistake.

■ **More Russians = more spies?** FBI counterintelligence chief Wayne Gilbert says that Russian spies used to be disguised as diplomats or journalists. Now, says Gilbert, there are more Russian spies in the United States, but they are more difficult to spot since they are more likely to be disguised as "visitors" or "businessmen" (*Baltimore Sun*, April 21, 1992). Gilbert warns that the FBI will offer the Russians no help fighting crime or drug problems until the number of spies entering this country is reduced.

■ **Glasnost à la Gates.** When CIA Director Robert Gates was confirmed last fall, he pledged to make more information public, and established a CIA "Openness Task Force" to speed the process. In March, Penny Bevis, director of the Center for National Security Studies, an organization affiliated with the American Civil Liberties Union, filed a Freedom of Information Act request for documents relating to the activities of the committee. John H. Wright, the CIA's information coordinator, responded to Bevis's request: "We recently completed a thorough search for material pertaining to your request for records regarding the 'recommendations of the Openness Task Force set up by Director Gates' and located one document, a report dated 20 December 1991, (which we have determined must be withheld in its entirety)" (*Harper's*, June 1992).

■ **Vremia Niu Yorka v Moskve.** Dateline Moscow: On April 28, the *New York Times* introduced its new weekly Russian-language newspaper, which contains a selection of *Times* articles translated by Moscow News personnel (*Economist*, May 2, 1992). Len Karpinsky, editor of *Moscow News*, hopes that reading the *Times* will help Russians "feel close to their American friends."

■ **Is it a hobby, then?** The air force intelligence command plans to purchase 40 "portable fax-tappers" at a cost of \$30,000 each (*Atlanta Constitution*, April 14, 1992). The device, which is attached to the phone line, will store an electronic copy of the fax on an intelligence command computer. Officials say intelligence officers will monitor for "communications security" violations, but insist that the command never uses taps for law enforcement or investigations. According to one intelligence official, "The Air Force intelligence command does not investigate."

base in Botswana.

After reading the *Baltimore Sun's* March 15 article, Sen. Alan Cranston, a California Democrat, asked Herman J. Cohen, assistant secretary of state for African affairs, to explain why U.S. military activities on the continent have tripled over the last year. In May, Cranston released Cohen's response. In a written statement to the Senate Foreign Relations Committee, Cohen, who characterized U.S. military activities as "non-lethal military assistance," explained: "We believe that continually exposing African military leaders to our military will help inculcate our values and forms of civil-military relations."

Cohen's statement also revealed that the U.S. Navy was active in Namibia; that the coast guard was at work in Cape Verde and the Ivory Coast; that army weapons trainers were involved in missions in Botswana and Senegal; and that navy and Coast Guard trainers were expected in Ghana, Sao Tome, Guinea-Bissau, Cameroon, and the Ivory Coast later in the year. Cohen failed to mention Operation Silver Eagle (*Baltimore Sun*, May 6, 1992).

Cohen also said that the Green Berets were "effective spokesmen for the role of the military in a democratic state," a claim that did not sit well with Cranston. He suggested that turning to the Pentagon "as the preferred agent of change in our relations in Africa makes little sense."

Sen. Paul Simon, an Illinois Democrat, also doubts that the Pentagon's activities are positive. The United States, he said, may be "moving a little too far in militarizing the area." Simon pointed out that Liberia and Zaire, both recipients of U.S. military aid, are now en-

gaged in bloody civil wars.

If the purpose of U.S. military aid is to influence local armies and promote democracy, Simon said, "I want to see us use our leverage more constructively" (*Baltimore Sun*, May 8, 1992). In Zaire, the Bush administration has continued to support the regime of Mobutu Sese Seko, although France and Belgium have called for him to step down because of corruption. "Here's another case where, frankly, American public relations and the people of Zaire are going to suffer," Simon added.

Noting that the army is scheduled to conduct more joint exercises in Botswana this summer, the *St. Louis Post-Dispatch* (May 6, 1992) questioned whether U.S. influence in that country is a positive development. Botswana, a relatively stable nation, had no army at all during its first decade of independence, from 1966 to 1975. It now manages with a modest force, used mainly to curb ivory poachers. But its leaders appear to have agreed to a major U.S. air base in exchange for U.S. military equipment. A *Post-Dispatch* editorial asks whether the administration would want a base in Botswana if it were not a neighbor of South Africa, and asks if the base's purpose is "to transport arms and troops to South Africa in the event of civil war."

—L.R.

Congress tests the waters

The demise of the Soviet Union brought an end to U.S. nuclear weapons production. And with no new production scheduled, the primary rationale for testing has disappeared.

Members of Congress—and even some administration officials—have begun to question why half a dozen nuclear tests are needed each year. The intense focus on Saddam Hussein's nuclear ambitions has heightened interest in curbing the spread of nuclear weapons. And countries that still refuse to sign the 1968 Nuclear Non-Proliferation Treaty—which is up for renewal in 1995—often cite the superpowers' unwillingness to end testing programs or to reduce their nuclear stockpiles as the reason for their own lack of cooperation.



Will Nunn bolts?

Russian President Boris Yeltsin (prompted by the absence of test sites) forswore nuclear testing last October. In April, the French announced a 12-month testing moratorium, increasing pressure on the Bush administration to take some action. And during a visit to Washington, George Bush's good friend Canadian Prime Minister Brian Mulroney gently prodded the president to curtail testing. Security adviser Brent Scowcroft reportedly was willing to consider some restraints; but Defense Secretary Dick Cheney gave a thumbs down.

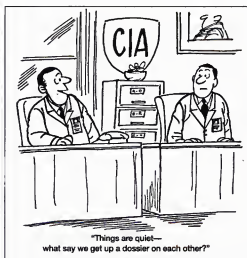
With other long-time weapons battles ending, many arms control organizations have refocused attention on nuclear testing and many

have made an end to testing this year's top priority. And there are signs that the testing issue may have a higher priority in Congress.

Last year Majority Leader Richard Gephardt and Oregon Democrat Mike Kopetski introduced a House bill that would halt testing for 12 months. After an intense grassroots lobbying campaign, more than half the members of the House signed on as co-sponsors. On June 4, by a vote of 237 to 167, the House passed an amendment to the fiscal 1993 defense authorization bill. It is no surprise that the House supports a moratorium; three times in the late 1980s the House adopted amendments to terminate all tests larger than one kiloton, and as recently as last year it adopted legislation prodding the administration to begin test-ban planning.

But the Senate—the traditional graveyard of arms control measures—is a tougher nut to crack. Test ban advocates signed up two significant allies—Majority Leader George Mitchell and Oregon Republican Mark Hatfield—to co-sponsor a bill similar to the Gephardt-Kopetski measure. By June it was clear that the Senate vote would be close. More than 40 senators co-sponsored the Hatfield-Mitchell bill, including a number of moderate Democrats and Republicans who shunned the issue several years ago. The key vote will probably take place in late July during Senate consideration of the Pentagon authorization bill. With hawkish Armed Services Committee Chairman Sam Nunn in charge of the bill, the Senate may be unable to produce enough votes to resist last-minute pro-test appeals from the administration.

There has been one im-



portant signal from the Senate—but its implications are uncertain. In late March, three Democratic senators—Tennessee's Albert Gore, Jr., Illinois' Paul Simon, and Nunn—warned the White House that they might join an effort to restrict testing if the administration refuses to engage in test ban negotiations. Their warning may produce a deal that undercuts the test ban momentum in the Senate. Or, Nunn might bolt, and join the anti-test ban forces.

—John Isaacs

The weak link

The spring 1992 issue of *Strategic Review* not unexpectedly applauded the performance of U.S. forces in the Gulf War—with one sour note. Williamson Murray, a professor of history at Ohio State University, decried the poor preparation of the U.S. intelligence services, and their poor performance both before and during the conflict. Murray offers anecdotal evidence to explain why intelligence was "the weak link":

"Two years ago a number of academics were invited to participate in a two-day open house at the Central Intelligence Agency. . . . Among the many activities in which we participated was a meeting with a group of young military analysts who represented the best and the brightest . . . that the CIA has to offer. These four young analysts had the following characteristics in common: not one had spent a day in the military; not one spoke or read a foreign language; not one had majored in national security studies or military history; but all had attended the four-week school for military analysts that the CIA sponsors."

—L.R.

Eric H. Arnett is a senior associate of the Program on Science and International Security at the American Association for the Advancement of Science in Washington, D.C. John Isaacs is executive director of Council for a Livable World in Washington, D.C. Linda Rothstein is managing editor of the Bulletin.

Britain, Australia deadlocked over nuclear cleanup costs; Can chemical treaty negotiators make the final push?

NUCLEAR TESTING

Britain's aboriginal sin

By ERIC NELSON



British nuclear test at Maralinga, October 1956.

Since taking office last December, Australian Prime Minister Paul Keating has sought to distance Australia from its heritage of British imperialism, declaring that the country's future lies with Asia and that an Australian republic is "an inevitability." But Keating's Labor government still needs to settle unfinished business with Britain.

When the United States denied Britain the use of the Nevada Test Site in the 1950s, then Prime Minister Sir Robert Menzies, an anglophile, offered Australian soil for British nuclear tests.

From 1953 to 1963, the British government tested a series of atomic weapons at Australian sites they dubbed Emu and Maralinga. Nine nuclear explosions and hundreds of pre-tests left about 90 square miles contaminated with intense radiation. Because the tests were conducted in secret, even the Australian government knew little of their nature.

The "minor" trials—conducted in violation of the 1958–1961 nuclear test moratorium signed by Britain—dispersed small plutonium particles over a wide area using conventional high explo-

sives. Some trials may have been a way to see if Britain had a usable nuclear weapon, or to test weapons components—triggers, for instance. Other minor trials (called "safety assessment tests") exposed nuclear devices to fire and explosions to test their stability in storage. One area, covered with a fine layer of plutonium dust, will be uninhabitable for 240,000 years, or ten times the half-life of plutonium. The Australian Radiation Laboratory says that only "intermittent forays" of less than nine hours should be permitted in the areas of worst contamination.

In 1984, the Australian government began an inquiry into the tests. A Royal Commission reviewed thousands of previously classified Australian and British documents and interviewed British scientists to piece together the nature of the tests and their effects on both Australian servicemen and Aborigines, who received few, if any, warnings about radiation exposure during or after the tests.

Among other things, the inquiry found that a 1967 British cleanup operation dubbed "Operation Bumbury" merely plowed topsoil under to reduce surface contamination, which will make further cleanups more difficult. At least 50 pounds of plutonium, buried in pits, scattered in pieces, or in surface dust require removal or stabilization.

The Australian Royal Commission recommended that Britain pay for the cleanup, and that Australia pay compensation to individuals. Australia accepted the recommendation; however, in 1987, the governments agreed to delay the question of payment until radiation specialists recommended a new decontamination plan. The plan was issued in November 1990. To date, no substantive action has been taken. Australia argues that Britain is "legally and morally obliged" to pay virtually all cleanup expenses. Britain disagrees. And the deadlock continues.

A major point of contention in the current British-Australian negotiations are documents absolving the British government from further responsibility for the test range. Australian officials signed one release in 1968, and another

in 1979 after the removal of one pound of solid plutonium to Britain. Attorneys for the Aborigines and Australian officials contend that the releases are not binding because they were signed before the Australian Radiation Laboratory discovered the extent of contamination in 1985.

The tests in South Australia rendered lands belonging to the Pitjantjatjara people uninhabitable, and exposed the group to dangerous levels of radiation. For the inquiry, the commission heard testimony from some Aborigines who described explosions and strange clouds drifting overhead from the Emu bomb site. One, Yami Lester, was a child in 1953 when a black mist swept over his family's encampment in the South Australian desert. Suffering from coughing, rashes and vomiting, several members of the community died soon after.

Lester went blind, which he attributes to nuclear fallout from the Emu bomb site. Another witness recalled camping in an atomic bomb crater with her husband and children in 1957. Subsequently, three of her children died, one of a brain tumor. According to documents and testimony, servicemen who witnessed the family's decontamination and removal from the range were sworn to secrecy under the Official Secrets Act.

But no radiological studies were conducted on Aborigines immediately following the tests. From an epidemiological standpoint, establishing a causal relationship between the tests and the Aborigines' recollections of disease is virtually impossible. Cancer deaths among the Aborigines have been documented, but the Royal Commission concluded that health studies conducted since the atomic tests are of "doubtful validity" because few written health records or vital statistics exist.

In light of the Pitjantjatjara's displacement, possible health risks, and the poisoned land, Andrew Collett, an Adelaide attorney who has represented the Maralinga Tjarutja aboriginal organization since 1984, calculated that the group should receive compensation of \$35 million. "We said fair compensation is for the community to live free of government assistance," said Collett, who presented the community's demands in London last November. The community now receives about \$1.5 million in government assistance a year.

In addition, the Aborigines want a more thorough cleanup of the bomb sites and dumps. A recent Australian assessment listed a number of cleanup options, from fencing off contaminated areas at a cost of \$9 million, to a nine-year project to remove contaminated topsoil at a cost of \$500 million. "But realistically, the lands can never be cleaned up," Collett said.

Unlike the Marshallese in the South Pacific, who can point to the U.S. government for contaminating their atolls in the 1950s, the Pitjantjatjara have been subject to buck-passing between the Australian and British govern-

ments since the late 1970s. They have argued that both governments should share the burden of cleanup and compensation expenses.

The Pitjantjatjara are active in the Aboriginal land rights movement and received 1,500 square miles of land from the state of South Australia last December. While they have made advances, they remain caught between two nations unwilling to accept responsibility for their actions. ■

Eric Nelson writes on Australia for the San Francisco Chronicle and other publications.

CHEMICAL WEAPONS

Tottering toward a treaty

By AMY E. SMITHSON

If the diplomats in Geneva decide to fish rather than endlessly cut bait, as they have been doing since 1980, they can reel in a big one by the end of the year—the long overdue chemical weapons convention (CWC), which would ban the development, production, stockpiling, and use of chemical weapons.

Negotiators from 39 nations on the Ad Hoc Committee of the Conference on Disarmament are now debating the merits of a draft text submitted by the chairman of the committee. The chairmanship, which rotates among three loosely aligned blocs, is currently held by Adolph von Wagner, a German from the Western Group. Wagner presented his text in May, in an effort to spur the process along.

About 80 percent of the text has been hammered out among the three blocs: the Western Group, including the industrialized European nations, Canada, the United States, Japan, and Australia; the Eastern Group, composed of Russia, Poland, Bulgaria, Czechoslovakia, Romania, and Hungary; and the Group of 21 (G-21), which embraces non-aligned countries such

as Pakistan, Argentina, Mexico, India, Egypt, Brazil, Cuba, Iran, Sweden, and Kenya. (Another major player, China, has no association with these groups.) Now that the endgame of the negotiations has begun, many participants of these loose-knit groups may break ranks and act independently.

Among the unresolved issues:

■ **The composition and functions of the executive council.** The council will be the most important decision-making body governing the convention once it gets under way. This body will supervise the Technical Secretariat, which will conduct the inspections, and also weigh compliance and implementation concerns.

Two basic plans for electing the council's membership have been advanced. One would draw the council members from all regions of the globe to create an equitable geographic balance. Another plan would combine regional representation with de facto permanent seats (something like the U.N. Security Council) for the states with the largest, most advanced chemical industries.

These "reserved" seats would be

THE POLITICS AND STRATEGY OF NUCLEAR WEAPONS IN THE MIDDLE EAST

Opacity, Theory, and Reality, 1960-1991—An Israeli Perspective

Shlomo Aronson with the assistance of Oded Brosh

Based on research from an array of American, Arab, British, French, German, and Israeli sources, this book provides a nuclear history of the world's most explosive region. Most significantly, it gives an exposition of Israel's acquisition and political use, or nonuse, of nuclear weapons as a central factor of its foreign policy in the 1960-1991 period. In stressing the factor of nuclear weapons, the author highlights an often-neglected aspect of Israeli security policy.

This is the first interpretation of the historical development of nuclear doctrine in the Middle East that assesses the strategic implications of opacity—Israel's use of suggestion, rather than open acknowledgment, that it possesses nuclear weapons. Aronson discusses the strategic thinking of Israel, the Arab countries, the U.S., the former Soviet

Union, and other countries and connects Israeli strategies for war, peace, territories, and the political economy with the use of nuclear deterrence.

The author approaches the development of Israeli doctrines on nuclear weapons and defense in general within a large matrix that includes the United States; Israeli perceptions of Arab history, culture, and psychology; and Israeli perceptions of Israel's own history, culture, and psychology. He also deals with Arab perceptions of Israel's nuclear program and with Arab and Iranian incentives to go nuclear. In addition, he discusses at length the importance of nuclear factors in the conduct of the Persian Gulf War and examines the implications of the demise of the Soviet Union for arms control and peace in the Middle East.

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filled by the United States, Japan, Germany, Russia, and China. Candidates for two other reserved slots include Britain, France, Italy, and Spain.

■ **Verification.** One of the convention's most vexing problems will be monitoring plants that produce legal pesticides, fertilizers, pharmaceuticals, and other products. In theory, "creative plumbing" or altered chemical inputs could quickly turn such plants into chemical-weapons operations. The broadly accepted solution is to conduct routine inspections at commercial and military sites, declared on the basis of production, processing, and consumption of key chemicals listed in the convention. Challenge inspections could be called to investigate suspicious, possibly illegal, activities.

The challenge-inspection issue, long the bane and the bulwark of the verification regime, was quietly resolved—at least in part—this spring. As early as 1984, George Bush, then vice president of the United States, first recommended an anytime-anywhere inspection policy, with no right of refusal. But last year, the United States, supported by Britain, Australia, and

Japan, retreated from this position with a proposal that would have made challenge inspections considerably less stringent. (See "On the Outside Looking In," October 1991 *Bulletin*.)

The United States recently modified its position after extensive discussion with France. As a result, "managed access" challenge inspections will require the challenged party to grant "the greatest degree of access possible" while taking precautionary measures to protect sensitive materials and items unrelated to chemical-weapons work.

The likely timeline would allow inspectors to secure the perimeter of the suspect site within 36 hours after entering the country, with such procedures as monitoring exiting vehicles. Within three more days, the inspection team would be allowed inside the perimeter.

One controversial provision of the chairman's text would give the executive council the ability to veto a challenge request with a consensus vote. While some of the G-21 states have proposed that the council "screen" challenge requests, this idea has been resisted by others who worry that such

a "filter" could be influenced by politics. This issue and others like the duration of an inspection and the right to send an observer still must be nailed down, but at least a framework has been erected for challenge inspections.

The consensus is that plants that produce chemical-weapons (CW) materials, or key precursor chemicals, would be "declared," and subject to routine inspections. Negotiators agree that routine inspections will take place at "Schedule 1" and "Schedule 2" facilities, which produce, respectively, super-toxic lethal chemicals and key precursor chemicals. Countries disagree about conducting routine inspections at "Schedule 3" facilities, which manufacture precursors and dual-use chemicals. A satisfactory definition of these ostensibly "CW-capable" facilities is still being established.

The majority of plants that produce Schedule 1 and 2 chemicals are in the northern industrialized nations, while Third World nations have mostly Schedule 3 facilities. By slating some Schedule 3 facilities for routine inspection, the chairman's text attempts to spread the burden of routine inspections more equally between nations above and below the equator.

The CW-capable definition has distinct North-South overtones, and will probably be among the most difficult issues to resolve. The solution may ultimately lie in a trade-off, with less developed nations accepting more routine inspections in exchange for more favorable export relationships with the North.

■ **Old and abandoned stocks.** The convention requires parties to destroy all chemical weapons stocks in their jurisdiction within 10 years. This issue has been particularly difficult for Japan and China, and also for some European states, who are saddled with other nations' abandoned stocks from previous wars, hot and cold.

The chairman's text tries to extricate states from being burdened with total financial responsibility for the costly destruction of weapons they did not create. The treaty requires signatories to declare the existence of stocks that have been abandoned on another state's territory. The states involved would then negotiate a mutually agreeable plan to destroy the stocks, including some level of compensation from the state that originated the stocks.

■ **Riot control agents.** The chairman's text reflects a consensus allowing the use of irritating agents (such as tear gas) for domestic law enforcement and riot control, but barring their use on battlefields.

At odds with the international community, but following domestic precedent, the United States argues that limited battlefield use of these agents should be permitted for defensive purposes only. During ratification, the U.S. Senate will subject the provisions regarding riot control agents to close scrutiny because successive administrations have held these agents outside the scope of the 1925 Geneva Protocol banning the use of various poisonous gases.

■ **Export controls.** Debate continues over the degree of flexibility states should have in enacting export controls. The chairman's text tries to finesse this issue with wording that says that parties will not maintain arbitrary restrictions that would "impede" trade with other parties.

The United States, among others, argues that members should be allowed to assess and maintain export controls

unilaterally. (How the tug-of-war over this issue will affect the "Australia Group" is still unclear. In an effort to curb proliferation, this group, which consists of some 20 exporting countries, created, and has gradually expanded, a list of controlled chemicals.)

In summary, although challenge inspection has been the most high-profile issue in recent years, it is no longer a make-or-break issue. Rather, issues with a more North-South orientation, such as the use of export controls and routine inspections at Schedule 3 facilities, could be the spoilers.

While grappling with these remaining issues, the delegates must remember to incorporate provisions that allow for improved verification as better technologies become available and circumstances change. Conspicuously absent from the inspectors' tool kit is aerial inspection, which has been a vital element in U.N. inspectors' ability to identify and confirm suspect sites and successfully conduct short-notice inspections in Iraq. More lenient amendment procedures will be a key to the convention's long-term

viability.

In May 1991, President Bush challenged negotiators to wrap up the convention no later than the end of 1992. If this deadline is to be met, considerable arm-twisting will have to be done. A political push from national capitals—particularly from the White House—is needed to propel the negotiators beyond their customary snail's pace.

By constructing and holding together the coalition against Iraq in the Gulf War, Bush proved that he has the cajoling, bribing, and even menacing skills needed to bring together a disparate group. Moreover, his public advocacy of a chemical weapons convention gives him a personal stake in its successful conclusion. In an election year overflowing with promises, those who believe the world would benefit by the elimination of chemical weapons hope he remembers this commitment. ■

Amy E. Smithson, a senior associate at the Henry L. Stimson Center in Washington, DC, is co-editor of Open Skies, Arms Control, and Cooperative Security (forthcoming).

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Unindicted co-conspirators

By WILLIAM M. ARKIN

Military leaders in the United States are having a hard time weaning themselves from the old Soviet threat. Despite Bush administration claims that the Commonwealth of Independent States (CIS) is no longer an adversary, nuclear insiders cite "conservative" forces in Russia and the former Soviet republics and the dangerous tensions that exist between civil and military sectors.

"Instability" in the former Soviet Union is not merely a reason for caution, it is also a tool to protect U.S. nuclear weapons from the threat of disarmament. The April 8-9 congressional testimony of Gen. Lee Butler, commander of the Strategic Air Command, typified the current approach. Stating the evolving rationales for a post-Cold War U.S. nuclear weapons policy, Butler stressed Russia's nuclear threat. As one Washington put it, "It's the only target in town."

Butler repeated the Pentagon's entrenched practice of characterizing routine Russian nuclear activities as ominous modernization by "robust, well funded" laboratories. Butler said that such activity was a "puzzle": "I would urge that there [be] . . . no precipitous drawdown in [U.S.] forces until we have some better understanding of how hard realities of economic collapse play into their [Russian] long-range plans for force modernization."

In contrast, Butler and his cronies would never think of describing the U.S. nuclear arsenal as other than antiseptic, almost humanitarian. In his testimony, Butler didn't even mention that U.S. nuclear crosshairs still point at CIS targets throughout the republics. Nor did he acknowledge the black-budget push to develop new nuclear war-fighting techniques. While these programs are partly the product of inertia, they are also a product of an unreformed belief in the permanence of the nuclear war-fighting system.

Given the lack of compelling rationales for nuclear weapons, the long-term survival of the U.S. nuclear machine increasingly depends on Russia's nuclear force. In a way, the two sides' military-industrial complexes are no longer adversaries; they are monopolists intent on finding a common doctrine and a cooperative approach to continuing their programs.

William M. Arkin, a contributing editor of the Bulletin, is director of military research for Greenpeace International in Washington, D.C.

Butler spelled out the administration's policy toward the non-existent adversary: "Whatever the pronounced intentions of the current leadership, until the enormous destructive potential resident in the nuclear arsenals of the CIS is greatly mitigated, this nation must retain a capability of comparable import." Nuclear forces must remain balanced, Butler argued, because "the absence of a competent U.S. retaliatory force could easily change the benign threat calculus we presently anticipate."

Action-reaction no doubt lubricated the arms race in the past, but during most of the Cold War, the U.S. and Soviet militaries were more or less in step with their political masters. Now, the Russian hardliners—specifically the military-industrial complex and nuclear weapons bureaucracy—are in direct conflict with civilian authorities, and the Pentagon's approach to the U.S.-Russian relationship merely strengthens their hand. Tough words about Russian intentions not only play well in the United States, they also feed resistance in Russia.

The Russian government—but evidently not the U.S. government—is working aggressively to break the cycle perpetuated by such loose talk. Writing in the Spring 1992 issue of *Foreign Affairs*, Russian Foreign Minister Andrei Kozyrev describes his government's desire to see "a switch from words to deeds." The Russian policy on nuclear weapons differs from Mikhail Gorbachev's "new thinking," says Kozyrev, because arms control breakthroughs in the 1980s were "measured by old standards—those of the Cold War." Those policies were only a "liberalized modification of the earlier Soviet foreign policy course." "Some individual concessions were occasionally won from the military-industrial complex on specific issues," but Gorbachev never succeeded in obtaining "its consent on the main point—on changing the very attitude toward the United States and the West as a whole."

Kozyrev says that Russia "simply cannot think . . . of NATO as Russia's adversary." This, he says, "is the firm position of those who make up the government of Russia today, but not yet the mentality of the entire society, particularly in its managerial apparatus and in the corridors of the military-industrial complex."

The U.S. government should want to help the transformation along by avoiding the old mentality of threat and

counter-threat. But its failure to do so is more than just a deficiency in rhetoric or restatement. At the very heart is ambivalence about U.S. post-Cold War nuclear objectives.

In the short term, Russia, Iraq, North Korea, and the "Third World"—any justification or potential target—is needed to keep the machine alive. But hidden behind the claim that the world is now a more dangerous place is the link between the new so-called dangers and U.S. nuclear programs. These programs are not only a waste of money, they feed paranoia in Russia.

From a Russian general's point of view, the current U.S. nuclear weapons program shows that the Cold War is still on. Here's what a Russian hardliner would see going on in the United States:

■ The Energy Department's 1993 budget includes exploratory development of a new low-yield nuclear bomb, a radio frequency nuclear warhead for tactical forces, a maneuvering reentry vehicle warhead for strategic missiles, and a hypervelocity air-to-ground nuclear weapon.

■ The air force is continuing to develop a stealthy "advanced cruise missile," a war-fighting advance over the existing air-launched cruise missile that is barely 10 years old.

■ The air force is developing an unmanned Mach 20 global hypersonic "glide vehicle" under the black budget "Have Space" program. Other nuclear war-fighting weapons include an earth-penetrating weapon capable of destroying deeply buried targets, and a ground-launched "Strategic Boost Glide Vehicle" able to strike targets around the globe.

■ The air force is developing a precision-guided reentry vehicle for ballistic missiles, one that would fit either existing or future missiles.

■ Black-budget nuclear war-fighting programs designed to perfect the destruction of mobile nuclear missiles still thrive. These include the air force's "Strategic Targeting Laser Radar," "abductive modeling" for detecting and identifying mobile targets; and "off-board scouts," a fleet of unmanned vehicles to help bombers search for mobile targets in nuclear scenarios.

More B-2 stealth bombers are being built, as are Trident II missiles and submarines. Minuteman III missiles are undergoing guidance improvements and upgrades.

None of these programs are motivated by safety or secu-

rity concerns, nor are they designed to deter future adversaries; they are all scaled-down programs intended to improve war-fighting and first-strike capabilities against the Russian arsenal—research striving for the same Cold War goals of battlefield transparency and smart-weapons accuracy.

Out of step with the real world, the two nuclear machines are feeding off each other—so much so that General Butler hopes to convince the leaders of the four nuclear republics to agree to nuclear weapon levels high enough that U.S. nuclear modernization can go forward.

The first step toward that goal is to reach an agreement

encouraging the Russians to resume nuclear testing this fall. Ostensibly, the two sides will "limit" testing to two or three tests a year, but in reality the two sides will use the agreement to neutralize their domestic opponents. Co-operating with the Russians protects the Bush administration's ultimate goal of a U.S. nuclear stockpile that exceeds the combined total of CIS, Chinese, British, and French forces.

Whatever the ultimate stockpile numbers will be, Butler knows they must not be too low. The gravest

danger is that numbers could fall so low that it would mean the collapse of the nuclear weapons research, production, deployment, and maintenance complex.

Butler calls this the "tyranny of small numbers." "As we shrink our nuclear arsenal further," he told Congress, "operational considerations will assume increasing weight in the process of determining how to reduce weapons levels."

Operational considerations include hedging against surprise attack or technological failure, but the primary concern is to be able to keep old nuclear weapons and build new ones. The development of new war-fighting techniques could not be hidden in an acknowledged disarmament regime.

Butler argues against "hasty" decisions that would foreclose options that "may well prove irrevocable." In other words, he wants to guard against any move that would hinder the nuclear weapons establishment's current plans for the new arsenal. While smaller, that arsenal will be of the same basic design, serve the same mission, and retain the same prominence in foreign policy. This is exactly the same position now being argued by Butler's anti-disarmament counterparts in Moscow. ■



Give Bush some credit

By JOHN ISAACS

Defense Secretary Dick Cheney may have set the tone in 1990, when he finally killed the A-12 Advanced Tactical Aircraft, which was over budget and behind schedule. Although the Pentagon had already spent close to \$9 billion on the program, the remaining 620 planes were expected to cost \$57 billion—over \$91 million each.

Early this year, the Bush administration announced that it intended to deep-six the Seawolf submarine. Even the Pentagon had come to agree that spending \$2 billion apiece for submarines designed to chase Soviet submarines and ships was no longer smart.

In 1990, Congress accepted the Defense Department's A-12 decision. This spring, despite aggressive lobbying by New England congressional delegations that will force the construction of one or perhaps two more submarines, the administration achieved its larger goal of sinking the Seawolf program.

The administration has justifiably been taken to task for having no post-Cold War military vision, and for being unwilling to make substantial reductions in the overall Pentagon budget. But to their credit, Bush and Cheney have bit the bullet on a number of weapons programs, and they are intent on shrinking the nuclear stockpile. Their record, while not exemplary, is laudable compared to that of Congress.

John Isaacs is executive director of Council for a Livable World in Washington, D.C., and a Bulletin contributing editor.



"Get rid of those."

The so-called "people's branch" is always willing to trim budgets here and make policy statements there. But when it comes to making hard choices about killing weapons programs, Congress often fades in the stretch.

In addition to curtailing Seawolf and the A-12, the administration—not Congress—has made a number of cuts in the past three-and-a-half years. Since taking office, the administration has:

- Terminated the MX rail-garrison program, originally designed to move nuclear-armed MX missiles by rail.

- Discontinued the mobile deployment plan for Midgetman nuclear missiles, and this year it discarded the missile as well.

- Junked the SRAM II air-to-ground nuclear-tipped missile. (Previously, Congress had eliminated all funding for the SRAM-T, a tactical version of the SRAM II missile originally designed for targets in Eastern Europe.)

- Ended nerve gas weapons production in an effort to prod the chemical weapons treaty negotiators in Geneva.

- Cut the B-2 bomber program back from the originally proposed 132 bombers to 75 and, this year, to 20. (While many in Congress vigorously opposed the program, it was the Pentagon that took the initiative.)

- Announced the unilateral destruction of all ground-based short-range nuclear weapons and the removal from ships of all tactical nuclear weapons. (Left to its own devices, Congress would have held hearings and introduced resolutions on the subject, but then deferred to the executive branch.)

■ Announced plans to reduce strategic nuclear stockpiles to 50 percent of START Treaty levels. The new U.S. and former Soviet Union ceilings—yet to be acted on—would be 4,700. Many argue that the administration can and should go lower, but at least the president took forceful action; Congress would not.

The pattern of executive branch decision-making and congressional inertia continues. As it completed work on the fiscal 1993 military authorization bill in May, the House Armed Services Committee articulated a number of lofty principles to guide future weapons procurement and personnel deployment—but then flubbed the follow-through.

The committee, in its summary report, noted that past practice was to develop and buy successive new generations of weapons, "each fast on the heels of the preceding one." The report continued: "This no longer makes sense in the post-Soviet world." In the future, the committee said, some technologies should be kept in the research stage, other weapons should be procured in very small numbers (so-called "silver bullet" procurement), and some aircraft or ships should be upgraded rather than jumping to an entirely new generation of weapons.

The targets of this rhetoric were four new tactical aircraft in development that may ultimately cost taxpayers more than \$350 billion: the navy's AX, the replacement for the canceled A-12; the FA-18 E/F aircraft; and the air force's F-

22 Multi-role Fighter. Tough words, but when it came to decision time, the committee cut only 10 percent from the \$2.2 billion requested for the F-22. It did cut half of the FA-18 E/F budget, but it increased funding for the AX. And it could not bring itself to kill the F-22 and the FA-18 programs, which have a combined cost of over \$160 billion.

The committee also ducked some other obvious "mercy killings": The Pentagon couldn't bring itself to end the C-17 cargo plane, which is over budget, behind schedule, and failing performance tests. Neither could the House Armed Services Committee, which merely cut this year's request from eight planes to six. The navy insists on moving ahead with another unneeded aircraft carrier, and the committee gave it the go-ahead. The committee also refused to end two Cold War weapons programs, the Trident II missile and the DDG-51 guided missile destroyer.

The committee did reduce the administration's \$281 billion budget request by about \$7 billion—two percent. However, it made those cuts the easy way, cutting "defense inventories" and "operations and maintenance." That avoids hard choices—or offending constituencies in St. Louis, Newport News, and Groton.

The administration thus deserves at least one-handed applause. Its military requests remain far too high; its strategy for the new world is cloudy; its willingness to make dramatic changes in the post-Cold War environment is questionable. But, as Congress gives new meaning to the word "passive," give Bush and Cheney a bit of credit for making a few tough choices. ■

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CAN FUJIMORI SAVE PERU?

By MICHAEL RADU

As Peru's president copes with Maoist insurgents, drug overlords, hyperinflation, a corrupt judiciary, and a paralyzed Congress, the United States says he's not doing enough.

On April 5, Peruvian President Alberto Fujimori suspended the constitution, dissolved an elected Congress, purged much of the judiciary, and with military backing, assumed complete power. Although he acknowledged Peru's problems, U.S. Secretary of State James Baker condemned Fujimori's actions and suspended all non-humanitarian aid to Peru, including funds for the anti-drug campaign. (See "Peru and the 'War on Drugs,'" page 19.) Was Fujimori's decision justified, or was the State Department's condemnation a constructive and principled defense of the democratic process? The answer to the first question may shed light on the second.

Fujimori claimed his hand had been forced by the judiciary's corruption and inefficiency, and by the legislature's corruption, bickering, politicization of issues, inaction, and incompetence. Equally important, Fujimori justified his *auto-golpe* (self-made coup) by claiming overwhelming popular support. With two of the three branches of government not functioning, but with military and massive popular support,

Fujimori began to reorganize the state, including a revision of the constitution. Since April 5, one independent public opinion poll after another has confirmed that Peruvian public support for Fujimori exceeds 70 percent. Most polls also found that the poor and the young are the president's strongest backers.

In an unusual presidential race in 1990, Fujimori, the son of Japanese immigrants, was the surprise victor over an internationally known novelist, Mario Vargas Llosa. Before the campaign, Fujimori was a relatively obscure agronomist and university president. When he assumed office, he inherited a country in ruins. Inflation was running at about 8,000 percent, with an accumulated rate during the past five years of about 2,500,000 percent. These rates, unique even among the profoundly mismanaged economies of Latin America, are well above those in post-communist states in Eastern Europe. Hyperinflation has pushed a majority of the population into abject poverty—or, at best, into the "informal sector" whose role and importance have been well publicized by Peruvian economist Hernando de Soto in his international best seller, *The Other Path*.

In 1990, the Peruvian gross national product was dwindling rapidly, falling below its levels of the mid-1960s, and approaching the economic depths of Haiti. Peru was isolated from the international financial markets, yet it had a crushing \$20 billion foreign debt—the direct result of President Alan Garcia's decision to limit debt service to 10 percent of the value of Peru's exports—a de facto repudiation of debt repayment. Capital flight, encouraged by hyperinflation, the populist and statist policies of Garcia's government, and Garcia's 1987 attempt to nationalize the banks, made a bad situation worse.

Fujimori's ad hoc and ragtag election vehicle, the *Cambio 90* (Change 1990) party, came in third in the new Congress, behind an unstable center-right alliance (FREDEMO) and Garcia's American Popular Revolutionary Alliance (APRA), and gave him virtually no congressional support. *Cambio 90* not only lacked a majority or plurality, it was a largely fictional party that soon split along regional, personal, and religious (Catholic v. Evangelical) lines. Nor was Fujimori much interested in party or congressional politics, compromises, or deals. Even his two vice presidents, Maximo San Remo and Carlos Garcia, were not involved in policy-making.

On the other hand, none of the major parties or alliances in Congress—FREDEMO, APRA, or the left—demonstrated any inclination to work with the president. His proposed laws were lost in congressional bickering; his December 1991 wave of decrees, all of which needed congressional approval, were dismissed or undermined amid political rhetoric. Congress voted itself large

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salary increases and bigger staffs, while the government paid a pittance to its soldiers.

Since 1980 most Peruvians have worried less about the dismal economic situation than about simple survival. Peru is today, and has been since the mid-1980s at the latest, victimized by the bloodiest, most efficient, and best led revolutionary organization in the world—the Maoist Communist Party of Peru (PCP)—better known as the *Sendero Luminoso*, or the Shining Path. Since 1980, when it made a violent debut by destroying electoral ballots during the first democratic elections since 1963, *Sendero* has been directly involved in some 22,000 deaths, and has done about \$20 billion dollars of damage to the country's infrastructure—an amount equal to Peru's foreign debt and more than equal to the country's annual GNP. This figure does not come from a hysterical right-wing source, but from a Peruvian government commission led by Sen. Enrique Bernalde, a stalwart of the democratic left.

Sendero controls, or denies government control over, some 40 percent of Peruvian territory, mostly in rural areas, including much of the Upper Huallaga Valley, the source of about 60 percent of the world's coca leaf. *Sendero* is proud of its nearly genocidal campaign against the approximately 120,000 Ashaninka Indians in the

Ene Valley, of mass kidnappings, of forced starvation, and of the murder of popularly elected leaders among the shum dwellers of Lima. The murder of Elena Moyano in February 1991 is a good example of *Sendero*'s revolutionary warfare. Her children watched as Moyano, the elected leftist deputy mayor of Villa El Salvador, Lima's largest shum, was shot dead and her body blown up with a dynamite charge.

Sendero's policy of decapitating the legitimate leadership of popular organizations to create a vacuum its cadres can fill follows its earlier strategy of eliminating the state's presence, and then any peaceful alternative, in as much of the country as possible. At the beginning of the insurgency, police were driven from rural outposts; next, judges and locally elected leaders were eliminated. Traditional Indian or village elders and other influential figures (such as teachers and agricultural-extension professionals) were next on *Sendero*'s list of enemies and victims. After national and regional leaders, members of the democratic left became targets of *Sendero*'s "annihilation teams." It was then the turn of representatives of non-political and non-governmental organizations, from foreign aid projects to the Catholic church. Five priests and two nuns were murdered simply because they, like Moyano, were helping the poor.

Sendero is led by a small group of intellectuals, mostly former professors from the San Cristobal University in Ayacucho, followers of

Sendero Luminoso
("Shining Path")
guerrillas lecture new
recruits at a jungle
training camp, 1989.

AP/WIDE WORLD



Alberto Fujimori.

Abimael Guzman, an ex-philosophy professor who wrote his dissertation on Immanuel Kant's philosophy of space. Known by his fanatical followers as "President Gonzalo," or "the Fourth Sword of Marxism" (after Marx, Lenin, and Mao), Guzman's methods and goals are similar to those of the Sorbonne-educated Pol Pot. His beliefs include a total rejection of modernity, which he associates with imperialism. Model farms and university agricultural laboratories (including one in Ayacucho), medicine factories, and some of the few bridges and roads Peru had have been destroyed. *Sendero* also expresses Guzman's hatred of capitalism by burning bank notes, closing down centuries-old Indian fairs, and murdering such robber barons and "exploiters" as an owner of two cows, ten sheep or llamas, or a truck.

But *Sendero* cannot be explained as a band of crazed lunatics. Its militants are cold-blooded killers with a clearly defined long-term strategy. They recruit children as young as six, they are tactically flexible and opportunistic, and—the ultimate nightmare for most Peruvians—they have now infiltrated all levels of society. A poorly paid Indian maid most middle class Peruvians would take for granted may well be discovered in possession of *Sendero* propaganda or an occasional Uzi.

Among those who have been identified as *Sendero* militants or sympathizers are a senatorial aide, a brilliant Catholic seminarian, elected community and union leaders, military and police recruits, even non-commissioned officers and would-be nuns. The entire membership of the legally established "Democratic Lawyers Association" and the journalists who published *El Diario* have been identified as *Sendero* propagandists. (*El Diario* was finally banned in 1990.) Many public universities—the largest of which is the oldest in the Americas, Lima's San Marcos—and La Cantuta, Peru's main teacher training institution, have become virtual *Senderista* training grounds. To make matters worse, during the past three years *Sendero* has increasingly and successfully penetrated Lima's shums—the *pueblos jóvenes* (new towns). To do so, it has used means such as Moyano's murder, but it has also taken advantage of the government's absence, and the people's poverty, or it has simply exerted sheer terror and manipulation in places like Raucana township, where it has established at least partial control.

Nor is *Sendero* the only threat to the security and the existence of the Peruvian nation. The Tupac Amaru Revolutionary Movement (MRTA), founded in 1984, is, by *Sendero* standards, small. But its links with the drug trade, and, most particularly, with Peru's largest and most established party, APRA, as well as with parties of the legal left, have made this basically pro-Cuban, pro-Sandinista group more important than its size would seem to warrant.

Victor Polay Campos, MRTA's founder and leader, is the son of an APRA founder. In December 1991 his sister was elected APRA women's leader. When Polay was captured by the APRA government and jailed for murders and drug dealing in 1987, Prime Minister Armando Villanueva visited him in jail—ostensibly to check on his safety—and the government-controlled TV channel allowed him to give interviews from jail. True or not, the 1990 jailbreak by MRTA prisoners, including Polay, was widely seen as possible only with the regime's contrivance.

As if a collapsing economy and two major insurgencies were not enough, since the early 1980s Peru has become the world's major source of cocaine. Over 60 percent of the world's coca leaf is produced in Peru, most in the Upper Hualagala Valley. At least 200,000 people are directly involved in growing coca, and as many as a million more—from Lima's street-corner money changers, to auto and video salesmen, to employees of legal enterprises owned by drug traffickers, are directly or indirectly dependent on drug money, as are their families.

In a country as poor as Peru, drug money—estimated to be at least \$2 billion a year—creates a degree of corruption impossible to gauge, let alone control. Members of Congress and businessmen, police and army generals, petty bureaucrats, journalists, and politicians are all involved. Political parties, intellectuals, and politicians hide behind nationalism, railing against "imperialist" pressures from the United States to control coca growing and to defend the allegedly centuries-old Indian tradition of coca chewing. (The Upper Hualagala became a coca-growing area only in the late 1970s.)

Drug trafficking and terrorism are by now so intricately linked that they are virtually one. *Sendero* is thought to extort as much as \$30 million a year by taxing the Colombian drug lords' imports of coca paste from the Upper Hualagala Valley, large stretches of which it now controls. MRTA's drug income widely exceeds its other sources of funds—ransoms from kidnappings and protection money.

After 12 years of a demagogic military government's bumbling nationalism and socialism, the post-1980 democratic governments of Peru (whether center-right [1980–1985], or more or less democratic-left [1985–1990] or Fujimori's own pre-April 5 lone-rider regime) proved incompetent, unable, or unwilling to cope with the country's growing problems. Apart from the irresponsible behavior of Peru's politicians, the main reason has been the weakness of the coun-

try's major institutions—Congress, the judiciary, the military, the police, and the bloated government bureaucracy.

The Peruvian Congress elected in 1990 represented at least 10 parties; they formed unstable coalitions that were soon divided by the personal ambitions of their leaders, or they broke up over narrow ideological issues. Fujimori, lacking both a congressional majority and the patience to build a coalition, was stopped at every turn and on every issue. Even Vargas Llosa's "Liberty Movement," whose economic program Fujimori took as his own, voted against Fujimori's free-market policies, which it had advocated during the 1990 campaign. And APRA, which seems to have learned nothing from its blunders when in power, tried to block every move of the executive. By late April, after Fujimori's *autogolpe*, former president Alan García, the self-described leader of the opposition, had become Peru's most unpopular politician, with an approval rating of 9 percent to Fujimori's 83 percent. (In early June, García traveled to Bogotá, Colombia, where he was granted political asylum.)

The collapse of Marxism abroad, and the homegrown inability to understand Peru's need to change or to withstand *Sendero's* assaults in its strongholds among the poor areas of Lima or Puno, have all contributed to the eclipse of the legal and parliamentary left. Some sectors of the legal left are openly linked to MRTA, and many others have engaged in a campaign for "human rights," which most Peruvians see as directed solely against the military and the police. Leftist unions are in the forefront of anti-privatization and anti-free market reforms.

All these factors combined to make the parliamentary left—dubbed the "parliamentary cretins" by *Sendero* leader Abimael Guzmán—less and less credible among its natural constituency, the urban poor. *Sendero's* murders of popular and credible local leftist leaders such as Elena Moyano have further marginalized this group. Only a few isolated and rational voices, such as that of the highly respected socialist, Sen. Enrique Bernaldes, remain.

A major reason for Fujimori's April coup was the total decay of Peru's judiciary. Its incompetence, slowness, absurd decisions, corruption, politicization, and vulnerability to intimidation are infamous, even in a Latin American context. Judges have been systematically bought, intimidated, or terrorized by *Sendero*, MRTA, and drug traffickers. One court initially found *Sendero's* second in command, Osman Morote, not guilty of terrorism, but later condemned him on secondary charges. In January 1992 the Supreme Court found Abimael Guzmán innocent of murder and terrorism, for "lack of proof."

The APRA-appointed Supreme Court, 13 of whose 28 judges were summarily fired by Fuji-

Peru and the "War on Drugs"

Until the 1980s, U.S.-Peruvian relations centered on such issues as compensation for nationalized assets of U.S. companies, fishing rights along the Pacific coast, and Lima's relations with Cuba and Nicaragua. After Peru became the world's largest coca leaf grower in the early 1980s, the drug issue came to dominate the relationship between the two countries. The Reagan and Bush administrations—and Congress—have all made Peru a centerpiece in the "War on Drugs." But the incoherence of both countries' drug policies has plagued every attempt to deal with the issue on a bilateral basis.

To the U.S. government, Peruvian coca growing is a threat to U.S. citizens—one to be eliminated as soon as possible, and at as low a financial and political cost as possible. While annual economic aid to Peru had increased from virtually nothing in the late 1970s to over \$250 million before Alberto Fujimori's April 5 government takeover, it has always been granted conditionally. Oblivious to the fact that the nexus between coca production and two violent insurgent movements constitutes a threat to Peru's very existence, Congress imposed stringent yet vaguely defined human rights conditions on aid to Peru.

The Peruvian military and police are engaged in what may well be the world's dirtiest war, and they have often blundered into human rights violations. This problem has eased somewhat since President Fujimori assumed office in 1990.

U.S. moves to end aid, to pull out two military radar installations designed to help Peru interdict drug trafficking, and to remove Drug Enforcement Agency (DEA) personnel from Peru's Upper Huallaga Valley after a Peruvian attack on a U.S. surveillance plane in April, seem merely self-defeating.

On the other hand, Peruvians have seized on the drug war as a ticket to U.S. financial largesse, as Fujimori himself demonstrated at this year's San Antonio drug summit when he rejected any definite drug-control deadlines unless Peru received a massive increase in economic aid. He argued that only economic development of the Upper Huallaga, not military intervention, would end coca growing. Fujimori failed to mention that the Upper Huallaga is already under emergency military rule, and that any alternative economic model for the region, if it is to be at all feasible, has an open-ended tab that the United States is not prepared to pay.

In the United States, some former DEA agents, military experts, and liberal politicians (an unlikely coalition if there ever was one) have used Fujimori's April 5 *autogolpe* as an excuse to give up on Peru altogether. The U.S. military has been ambivalent at best about the drug war, and its leaders dread the possibility of having to deal with the Maoist *Sendero Luminoso* (Shining Path); liberal politicians have opposed counter-insurgency activities; and nobody wants to see U.S. Marines die for an uncertain cause in a foreign country.

—M.R.

mori after April 5, also found ex-president Alan García innocent of all charges of corruption after a congressional commission had lifted his senatorial life-time immunity. According to the Peruvian media, the national attorney, also appointed by Alan García (and fired by Fujimori), asked, illegally, for the income tax returns of APRA's enemies.

A peasant farmer harvests coca leaves in a jungle plot in the Upper Huallaga Valley, the world's single largest source of coca, the raw material for cocaine.



Political prisoners have been routinely protected by the courts because they were able to intimidate and threaten judges. The courts opposed the return to police control of a prison taken over by *Sendero* prisoners in 1987, and the Supreme Court has refused to allow police to intervene in public universities like San Marcos and La Cantuta—*Sendero*'s and MRTA's main recruiting pools—in the name of "university autonomy," although there was massive evidence that the campuses were controlled by *Sendero* and/or MRTA.

Finally, with no regard to law, common sense, or society's interest or safety, judges have routinely freed prominent *Sendero* leaders long before they have completed their sentences, ostensibly for "good behavior." Meanwhile, petty criminals from the poorest strata of society have languished in prison for years before going to trial. One of Fujimori's first steps after April 5 was to release those long awaiting trial.

While tens of thousands of poor Peruvians

were awaiting trial in some of South America's worst jails, some 600 convicted *Sendero* and MRTA terrorists were in total control of their jails. Mostly of middle-class origin, these prisoners received food and money from their party or relatives and denied police access to their prison blocks, which were then transformed into political indoctrination and military training camps that even offered media shows. One of Fujimori's first actions after April 5 was to reestablish police control over prison areas controlled by *Sendero* for the past five years. By the end of April, at the cost of the lives of three policemen and 30 convicts, Peru's prisons were once again controlled by the state, not by self-proclaimed "political" prisoners—another of Fujimori's popular measures.

It is perhaps Peru's greatest tragedy that while Fujimori found massive popular support

for suspending democracy, the two institutions that supported his decision—the police and the military—are slender reeds for reforming the country and solving its problems. If anything, both are as inept and corrupt as the Congress and the judiciary.

The police are so corrupt that most Peruvians view them as just another group of thugs who threaten their pockets and their lives. Abysmally paid and led, the police began to lose control in some parts of Peru as early as 1982. During the 1985–1990 APRA regime, the government politicized the police to the extent that then interior minister Agustín Mantilla—now under arrest for possessing a huge arsenal in his home—was found guilty by a congressional committee of establishing and arming death squads such as the “Rodrigo Franco Commando.” Always poorly motivated and paid, the police have never recovered from APRA’s politicization.

Nor is the military an effective fighting force against the *Sendero*, MRTA, or drug traffickers. Most of the top command is incompetent and politicized—yes-men to Fujimori and his *eminence grise*, Vladimiro Montesinos. Montesinos, a cashiered captain once accused of selling secrets to the CIA, is now Fujimori’s intelligence boss—and he keeps files on all senior generals. As far as *Sendero* and MRTA are concerned, for more than a decade the military took nearly every wrong step possible. Promotion is determined by seniority, not competence, and commanders rarely remain in the areas of their expertise for more than a year. And the Peruvian military’s historic obsession with imagined threats from Ecuador and Chile means that at least half the armed forces are based outside areas of active insurgency. The army is still seeking more tanks from Czechoslovakia and fighter planes from Russia, all expensive and irrelevant to Peru’s problems. Neither the military nor any government since 1980 has devised a coherent strategy for combating the *Sendero* or MRTA.

Occasionally, President García asked the military to arm villagers so that they could resist *Sendero* attacks, and Fujimori has pressed this policy more persistently. Until last year, the military had resisted, complying only sporadically.

New democracies need to adjust to reality, in both an institutional and a logical sense. This is a truth made obvious by political conflicts in Tajikistan and Georgia, Venezuela and Peru. After decades of authoritarianism, communism, or an incompatible political culture, democracy is not something to be installed or arbitrated by Washington, Brussels, or the United Nations. Nor can democracy be established in a quick-fix, single

election by a largely ignorant population.

The fact that Peruvians of all social origins approve of Fujimori’s dismantling of Peru’s version of “democracy” does not make them anti-democratic. Nor does their hostility to the same parties they voted for in 1990 transform most Peruvians into authoritarian zombies. Simply put, they are tired of a system that does not work. And when a majority of Peruvians say they support a dialogue between Fujimori and his foes, it suggests that their hostility to democratic inefficiency is not the same as hatred for democracy.

With a leaderless military and an ineffective police force, Fujimori may need external support to clean up Latin America’s most reactionary and inefficient political system. U.S. proposals to isolate Fujimori—who was elected by popular vote—in the same way the United States has isolated the Haitian military junta, is an insult to both Peruvians and to democracy.

American interests go beyond wanting Peru to enjoy an electoral democracy or the notion of freedom for its own sake. The enmity between Fujimori and the Peruvian Congress may make American congressmen uneasy, but that is no reason to confuse either circumstances or countries. Denying Peru aid or access to international credits from the World Bank and the International Monetary Fund merely provokes self-defeating Peruvian nationalism and helps nobody.

Peru presents the clearest example of what may be an increasing phenomenon—a country where short-term democratic formalities and a free future are in conflict. In places where it is new and fragile, democracy needs time and popular support to take root. As demonstrated in Peru, that time may come after, not before the economic, security, and personal rewards of change are apparent.

Fujimori did not kill democracy in Peru. He has removed a democratic mask, a locally unpopular disguise rejected by almost every Peruvian.

In its early stages, democracy has to be seen as working, and it has to be efficient. In both respects, Peru’s democracy, formal but superficial, failed. In fact, so obvious was its failure that some of Fujimori’s most determined foes now publicly admit that there could not, and should not, be a return to the situation before April 5. Punishing Peru for Fujimori’s decision will only further damage the lives of 23 million Peruvians. And withdrawing U.S. aid and cooperation with Peru in the fight against drugs will also be self-defeating, since it will mean an increase in the supply of crack cocaine to U.S. cities.

Fujimori should be encouraged to restructure and rebuild a Peruvian democracy, and he should be pressured to keep the five-month schedule for constitutional reform and new congressional elections (promised for October) that he has pledged to follow. ■

Fujimori did not kill democracy; he removed a democratic mask.



THE RIVER OF TIME

By MIKHAIL GORBACHEV

In May, Mikhail Gorbachev, last president of the Soviet Union, spoke in Fulton, Missouri—the site of Winston Churchill's "Iron Curtain" speech 46 years ago.

More than 46 years ago, Winston Churchill spoke in Fulton, and in my country this speech was singled out as the formal declaration of the "Cold War." This was indeed the first time the words "Iron Curtain" were pronounced, and the whole Western world was challenged to close ranks against the threat of tyranny in the form of the Soviet Union and Communist expansion. Everything else in this speech, including Churchill's analysis of the postwar situation in the world, his thoughts about the possibility of preventing a third world war, the prospects for progress, and methods of reconstructing the postwar world, remained unknown to the Soviet people.

Today, in paying tribute to this prominent statesman, we can evaluate more quietly and objectively both the merits of his speech and the limitations of the analysis which it included, his ideas and predictions, and his strategic principles.

Since that time the world in which we live has undergone tremendous changes. Even so, however paradoxical it may sound, there is a certain similarity between the situation then and today. Then, the prewar structure of international relations had virtually collapsed, (and) a new pat-

tern of forces had emerged along with a new set of interests and claims.

Different trends in world development could be discerned, but their prospects were not clearly outlined. New possibilities for progress had appeared. Answers had to be found to the challenges posed by new subjects of international law. The atmosphere was heavy—not only with hope, but also with suspicion, lack of understanding, unpredictability.

In other words, a situation had emerged in which a decision with universal implications had to be taken. Churchill's greatness is seen in the fact that he was the first among leading political figures to understand that.

Indeed, the world community, which had at this time already established the United Nations, was faced with a unique opportunity to change the course of world development, fundamentally altering the role in it of force and of war. And, of course, this depended to a decisive degree on the Soviet Union and the United States—here I hardly need to explain why.

So I would like to commence my remarks by noting that the Soviet Union and the United States missed that chance—the chance to estab-

lish their relationship on a new basis of principle and thereby to initiate a world order different from that which existed before the war. I think it is clear that I am not suggesting that they should have established a sort of condominium over the rest of the world. The opportunity was on a different plane altogether.

If the United States and the Soviet Union had been capable of understanding their responsibility and sensibly correlating their national interests and strivings with the rights and interests of other states and peoples, the planet today would be a much more suitable and favorable place for human life. I have more than once criticized the foreign policy of the Stalinist leadership in those years. Not only was it incapable of reevaluating the historical logic of the interwar period, taking into account the experience and results of the war, and following a course which corresponded to the changed reality, it committed a major error in equating the victory of democracy over fascism with the victory of socialism and aiming to spread socialism throughout the world.

But the West, and the United States in particular, also committed an error. Its conclusion about the probability of open Soviet military aggression was unrealistic and dangerous. This could never have happened, not only because Stalin, as in 1939-1941, was afraid of war, did not want war, and never would have engaged in a major war. But primarily because the country was exhausted and destroyed; it had lost tens of millions of people, and the public hated war. Having won a victory, the army and the soldiers were dying to get home and get back to a normal life.

By including the "nuclear component" in world politics, and on this basis unleashing a monstrous arms race—and here the initiator was the United States, the West—"defense sufficiency was exceeded," as the lawyers say. This was a fateful error.

So I would be so bold as to affirm that the governing circles of the victorious powers lacked an adequate strategic vision of the possibilities for world development as they emerged after the war—and, consequently, a true understanding of their own countries' national interests. Hiding behind slogans of "love for peace" and defense of their people's interests, on both sides decisions were taken which split asunder the world which had just succeeded in overcoming fascism because it was united.

And on both sides this was justified ideologically. The conflict was presented as the inevitable opposition between good and evil—all the evil, of course, being attributed to the opponent. This continued for decades until it became evident that we were approaching the abyss. I am stating this because the world community has paid dearly for the errors committed at this turning point in world history.

In the major centers of world politics the choice, it would seem, has today been made in favor of peace, cooperation, interaction, and overall security. And in pushing forward to a new civilization we should under no circumstances again make the intellectual (and consequently political) error of interpreting victory in the "Cold War" narrowly as a victory for oneself, one's own way of life, for one's own values and merits. This was a victory over a scheme for the development of humanity which was becoming slowly congealed and leading us to destruction. . . . It was a shattering of the vicious circle into which we had driven ourselves. This was altogether a victory for common sense, reason, democracy, and common human values.

Churchill urged us to think "superstrategically," meaning by this the capacity to rise above the subsidiary problems and particularities of current realities, focusing on the major trends and being guided by them.

What are the characteristics of the world situation today? In thinking over the processes which we ourselves have witnessed, we are forced to conclude that humanity is at a major turning point. Not only the peoples of the former Soviet Union, but the whole world is living through this watershed situation. This is not just some ordinary state of development, like many others in world history. This is a turning point on a historic and worldwide scale and signifies the incipient substitution of one paradigm of civilization by another.

Since antiquity the progress of humanity has occurred within the framework of regional civilizations and relatively autonomous societies—autonomous in the sense that the interaction among them was not the determining factor in the development of a given state or a given people and did not turn into an all-encompassing interdependence. Before our eyes this pattern of relations is receding into the past. It is being overtaken by powerful global integrating trends due to the far-reaching scientific and technical revolution, the internationalization of economic processes, and the profound transformation of the conditions of human life.

All of this allows us to conclude that there has been a radical change in the very forms of social development which existed in the past—a change in the organization of social life and in virtually every area of human existence. What is more, there has been a change in people's internal world, in how they visualize moral and social ideals.

These changes, of course, did not start today or yesterday. But it is today, before our eyes and with our participation, that they enter their

Stalin was afraid of war, did not want war, and never would have engaged in a war.



Sir Winston Churchill, with President Harry Truman at left and Westminster College president Franc McCluer at the right, before Churchill's March, 1946 "Iron Curtain" speech.

WESTMINSTER COLLEGE
PHOTO ARCHIVES

decisive, watershed phase, when all spheres of human activity—production, economics, finance, the market, politics, science, culture, and the like—become integrated on a world-wide scale. This existing and intensifying integration of the world reveals a broad spectrum of favorable opportunities for the future of mankind.

First and foremost, it signifies the possibility of creating a global international security system, thus preventing large-scale military conflicts like the world wars of the twentieth century and facilitating a radical reduction in levels of armaments and reducing the burden of military expenditures. This signifies that the attention, and the resources, of the world community can be focused on solving problems in non-military areas: demography, ecology, food production, energy sources, and the like. This means new opportunities for economic progress, insuring normal conditions of life for the earth's growing population, and improved living conditions.

We have, in fact, already started moving in that direction. But the significance of these changes, while a great source of hope, should not blind us to the dangers—some of which we have already encountered. It would be a supreme tragedy if the world, having overcome the "1946 model," were to find itself once again in a "1914 model" world. A major international effort will be needed to render irreversible the shift in favor of a democratic world—and democratic for all of humanity, not just for half of it.

I am in full agreement with Secretary of State James Baker's formulation. The existing dangers are largely a function of the watershed character of the times we live in. It is quite clear that the enhanced integration and interdependence of the world at the same time creates new tensions—both domestically and international-

ly—unleashing processes which earlier were hidden from view.

The very fact that the two world blocs are no longer in confrontation and that the collapse of totalitarian regimes has released centrifugal forces which had been temporarily frozen—territorial and intergovernmental contradictions and claims—has encouraged an exaggerated nationalism. And this has already led to much bloodshed.

The ending of the global confrontation of nuclear superpowers, and of the ideological opposition between the two world systems, has rendered even more visible today's major contradiction—between the rich and poor countries, between "North" and "South." All these terms today are not merely conventional.

The essence of the situation is not altered by the fact that several countries of the South have shaken off poverty and backwardness, while some are treading on the heels of the old developed countries. Still the correlation between poverty and wealth in the modern world has not improved, but has actually deteriorated due to the profound crisis in the countries which have emerged from the Soviet Union. The situation is made worse by the headlong development of world communications and the systematic transmission of information, inculcating in the less developed countries a more intense feeling of social deprivation and even of hopelessness and despair.

Turning now to the world economy, the increasingly close links between national economies and markets is accompanied by intensified international competition, leading to de facto trade wars and a threatened rebirth of protectionism. One of the worst of the new dangers is ecological. When Winston Churchill gave his speech here, most people on this planet did not even suspect a mortal threat from that direction.

But today, global climatic shifts, the greenhouse effect, the "ozone hole," acid rain, contamination of the atmosphere, soil, and water by industrial and household waste, the destruction of the forests, etc., all threaten the stability of the planet. Despite all the efforts being made to prevent ecological catastrophe, the destruction of nature is intensifying. And the effects of our poisoning of the spiritual sphere—drug addiction, alcoholism, terrorism, crime—become further ecological threats. All of this together heightens the probability of social, national, and international conflicts.

Not having understood the transitional character of the present international system, with all its inherent contradictions and conflicts, politicians again risk committing errors which would have the most baneful consequences for all. The prospect of

As surely as the sun will rise

Winston Churchill's "Iron Curtain" speech—the seminal speech of the early Cold War—was delivered on March 5, 1946, in Fulton, Missouri, which lies amid the verdant corn-and-soybean country of central Missouri. Not quite eight months earlier, British voters, desperately unhappy with the wretched shape of the war-ravaged British economy, had turned the Conservative Party out of power, and Prime Minister Churchill, the Conservative leader, found himself with considerably more time on his hands.

In the months that followed, Churchill was besieged with offers to speak. He accepted few such engagements, but he found one offer irresistible. President Harry S. Truman suggested that Churchill might speak at Westminster College in Fulton—"a wonderful school," wrote Truman, "in my home state."

Churchill was not inclined to offer a few *pro forma* remarks. Instead, he sought to catch the world's attention by presenting an "overall strategic concept" for achieving world peace. No one, Churchill said in his Fulton speech, could estimate the "sum of human pain" caused by war and tyranny. The "supreme task is to guard the homes of the common people from the horrors and miseries of another war." The United Nations, still in its infancy, might eventually become the tool for keeping peace in the world, and to that end, the nations of the world ought to contribute to a peacekeeping force.

But, he added, until the United Nations could be made an effective force, the United States and the British Commonwealth must play a special role in building a "temple of peace"—a world in which individual freedom was insured and human want was eliminated. Such a self-proclaimed central role was not inconsistent with the purposes of the United Nations; indeed, "it is probably the only means by which that organization will achieve its full stature and strength."

And now, a warning: A "shadow has fallen upon the scenes so lately lighted by the Allied victory." While the long-range goals of the Soviet Union were not yet known, certain facts were ominous. "From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent. Behind that line lie all the capitals of the ancient states of Central and Eastern Europe. Warsaw, Berlin, Prague, Vienna, Budapest, Belgrade, Bucharest, and Sofia—all these famous cities and the populations around them lie in the Soviet sphere and all are subject in one form or another not only to Soviet influence, but to a very high and increasing measure of control from Moscow."

Nevertheless, Churchill said, "I do not believe that Soviet Russia desires war. What they desire is the fruits of war and the indefinite expansion of their power and doctrines. . . . From what I have seen of our Russian friends and allies during the war, I am convinced that there is nothing for which they have less respect than for military weakness. . . . If the Western democracies stand

together in strict adherence to the principles of the United Nations Charter, their influence for furthering these principles will be immense and no one is likely to molest them. If, however, they become divided or falter in their duty, and if these all-important years are allowed to slip away, then indeed catastrophe may overwhelm us all."

The reaction to Churchill's speech, with its unmistakable Anglo-American orientation, was immediate and not altogether favorable. The Soviets, after all, were still our wartime friends. The *Chicago Sun* said that Churchill was proposing "world domination, through arms, by the United States and the British Empire." The *Nation* asserted that Churchill had "added a sizable measure of poison to the already deteriorating relations between Russia and the Western powers." Author Pearl Buck said "we are nearer to war tonight than we were last night." The *Wall Street Journal* wrote that the United States wanted no alliance, "or anything that resembles an alliance, with any other nation." Churchill was sharply criticized in Congress and in Parliament.

Pravda accused Churchill of spreading falsehoods and trading in hypocrisy as he "convulsively" grabbed at "Uncle Sam's coattails in the hope that an Anglo-American military alliance will enable him to follow his plan through." And Josef Stalin boasted that democracy was healthier in Central and Eastern Europe than it was in England. Further, he said, Churchill bore a striking resemblance to Hitler, whose belief in racial superiority led to war. "Now Mr. Churchill is starting his process of unleashing war also with a racial theory, declaring that only those people who speak English are full-blooded nations, whose vocation is to control the fate of the whole world."

Ten days after his Fulton speech, Churchill commented in New York on the furor: "We all remember what frightful losses Russia suffered in the Hitlerite invasion and how she survived and emerged triumphant from injuries greater than have ever been inflicted on any other community. There is deep and widespread sympathy throughout the English-speaking world for the people of Russia and an absolute readiness to work with them on fair and even terms to repair the ruin of war in every country. If the Soviet government does not take advantage of this sentiment, if on the contrary they discourage it, the responsibility will be entirely theirs. . . ."

"I have never asked for an Anglo-American military alliance or a treaty. I asked for something different and in a sense I asked for something more. I asked for fraternal association—free, voluntary, fraternal association. I have no doubt that it will come to pass, as surely as the sun will rise tomorrow. . . . Nothing can prevent our nations drawing ever closer to one another, and nothing can obscure the fact that, in their harmonious companionship, lies the main hope of a world instrument for maintaining peace on earth and goodwill to all men."

—Mike Moore

**All would seem
agreed that
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exhausted
its potential.**

catastrophic climatic changes—more frequent droughts, floods, hunger, epidemics, national-ethnic conflicts, and other similar catastrophes—compels governments to adopt a world perspective and seek generally applicable solutions. . . .

This means that we need another understanding of the problems of international security, of national interest, and of the tasks which must be solved to guarantee the survival of humanity. We must explore various scenarios, including the most unfavorable, predicting their occurrence so as to be able to act accordingly. Some experience already exists in various areas: [conflicts in] the Persian Gulf, Yugoslavia, Cambodia, Korea, the Caucasus, the Baltic region, the earthquake in Armenia, the Chernobyl disaster. What is important is that all these varied undertakings by the world community bear the imprint of the new atmosphere in the world, one which emerged, among other reasons, thanks to perestroika and the "new thinking."

One consequence of increasing world integration is the democratization of international relations. It would seem that all are agreed that the bipolar system has exhausted its potential. The view exists that it will be replaced by a monocentric one. But most people feel that the world will be multipolar. This would probably be acceptable if, of course, one bears in mind that this is not the type of redistribution of roles that was customary in the past.

No, the principle according to which certain states or groups of states could monopolize the international arena is no longer valid. What is emerging is a more complex global structure of international relations. An awareness of the need for some kind of global government is gaining ground, one in which all members of the world community would take part. Events should not be allowed to develop spontaneously. There must be an adequate response to global changes and challenges. If we are to eliminate force and prevent conflicts from developing into a worldwide conflagration, we must seek means of collective action by the world community.

There are chances for peace. This is confirmed by what has happened to the political views of the leaders of the Great Powers in the past few years. What is needed are principles and mechanisms for converting possibility into reality. . . .

What has to be done is to create the necessary mechanisms. In my position it is not very appropriate to give them names. It is important that they should be authorized by the world community to deal with problems. Without that there is no point in talking about a new era or a

new civilization. I will limit myself to designating the lines of activity and the competence of such mechanisms.

Nuclear and chemical weapons. Rigid controls must be instituted to prevent their dissemination, including measures of compulsion in cases of violation. An agreement must be concluded between all presently nuclear states on procedures for cutting back on such weapons and liquidating them. Finally a world convention on chemical weapons should be signed.

The peaceful use of nuclear energy. The powers of the IAEA [International Atomic Energy Agency] must be strengthened, and it is imperative that all countries working in this area be included in the IAEA system. The procedures of the IAEA should be tightened up and the work performed in a more open and aboveboard manner. Under United Nations auspices a powerful consortium should be created to finance the modernization or liquidation of highly risky nuclear power stations, and also to store spent fuel. A set of world standards for nuclear power plants should be established. Work on nuclear fusion must be expanded and intensified.

The export of conventional weapons. Governmental exports of such weapons should be ended by the year 2000, and, in regions of armed conflict, [exports] should be curtailed at once. The illegal trade in such arms must be equated with international terrorism and the drug trade. With respect to these questions the intelligence services of the states that are permanent members of the Security Council should be coordinated. And the Security Council itself must be slightly expanded, which I will mention in a moment.

Regional conflicts. Considering the impartially examined experience obtained in the Middle East, in Africa, in Southeast Asia, Korea, Yugoslavia, the Caucasus, and Afghanistan, a special body should be set up under the U.N. Security Council with the right to employ political, diplomatic, economic, and military means to settle and prevent such conflicts.

Human rights. The European process has officially recognized the universality of this common human value, that is, the acceptability of international interference wherever human rights are being violated. This task is not easy even for states that signed the Paris Charter of 1990 and even less so for all states members of the United Nations. However, I believe that the new world order will not be fully realized unless the United Nations and its Security Council create structures (taking into consideration existing U.N. and regional structures) authorized to impose sanctions and to make use of other measures of compulsion.

Food, demography, economic assistance. It is no accident that these problems should be dealt with in this connection. Upon their solution depends the biological viability of the earth's

population and the minimal social stability needed for a civilized existence of states and peoples. Major scientific, financial, political, and public organizations—among them, the authoritative Club of Rome—have long been occupied with these problems. However, the newly emerging type of international interaction will make possible a breakthrough in our practical approach to them. I would propose that next year a world conference be held on this subject. . . .

All of these problems demand an enhanced level of organization of the international community. However, even now, at a time of sharply increased interdependence in the world, many countries are morbidly jealous of their sovereignty, and many peoples of their national independence and identity. This is one of the newest global contradictions, one which must be overcome by joint effort. . . .

Here the decisive role may and must be played by the United Nations. Of course, it must be restructured, together with its component bodies, in order to be capable of confronting the new tasks. These ideas have long been under discussion, and many proposals have been put forward. . . .

The United Nations, which emerged from the results and the lessons of the World War II, is still marked by the period of its creation. This is true both with respect to the makeup of its subsidiary bodies and auxiliary institutions and with respect to its functioning. Nothing, for instance, other than the division into victors and vanquished, explains why such countries as Germany and Japan do not figure among the permanent members of the Security Council.

In general, I feel Article 53 on "hostile states" should be immediately deleted from the U.N. Charter. Also, the criterion of possession of nuclear weapons would be archaic in the new era before us. The great country of India should be represented in the Security Council. The authority and potential of the council would also be enhanced by incorporation on a permanent basis of Italy, Indonesia, Canada, Poland, Brazil, Mexico, and Egypt, even if initially they do not possess the veto.

The Security Council will require better support, [and] more effective and more numerous peacekeeping forces. Under certain circumstances it will be desirable to put certain national armed forces at the disposal of the Security Council, making them subordinate to the U.N. military command.

The proposal, which I accept, has already been made that a global observational system be established for spotting emergencies. The U.N. Secretary-General should be authorized to put it into action even before a conflict becomes

violent. Closer coordination of U.N. organs with regional structures would only enhance its capacity to settle disputes in the world.

Of course, the U.N.'s contemporary role, and first and foremost, an expanded and strengthened Security Council, will require substantial funding. The method adopted for financing at the founding of the United Nations revealed its weaknesses just as soon as, some years later, it became more active and came closer to actually carrying out the tasks assigned by its founders. This method must be supplemented by some mechanism tying the United Nations to the world economy. . . .

On today's agenda is not just a union of democratic states, but also a democratically organized world community. Thus, we live today in a watershed era. One epoch has ended, and a second is commencing. No one yet knows how concrete it will be. Having long been orthodox Marxists, we were sure we knew. But life once again refuted those who claimed to be know-it-alls and messiahs.

It is clear that the twentieth century nurtured immense opportunities. And from it we are inheriting frightful, apocalyptic threats. But we have at our disposal a great science, one which will help us avoid crude miscalculations. Moral values have survived in this frightful century, and these will assist and support us in this, the most difficult transition in the history of humanity—from one qualitative state to another.

In concluding I would like to return to my starting point. From this tribune Churchill issued an appeal to the United Nations to rescue peace and progress, but primarily to Anglo-Saxon unity as the nucleus to which others could adhere. In the achievement of this goal the decisive role, in his view, was to be played by force, above all, by armed force. . . .

The goal today has not changed: peace and progress for all. But now we have the capacity to approach it without paying the heavy price we have been paying these past 50 years or so, without having to resort to means that put the very goal itself in doubt, that even constitute a threat to civilization. And while continuing to recognize the outstanding role of the United States of America, and today of other rich and highly developed countries, we must not limit our appeal to the elect, but call upon the whole world community.

In a qualitatively new and different world situation the overwhelming majority of the United Nations will, I hope, be capable of organizing themselves and acting in concert on the principles of democracy, equality of rights, balance of interests, common sense, freedom of choice, and willingness to cooperate. Made wise by bitter experience, they will, I think, be capable of dispensing, when necessary, with egoistic considerations in order to arrive at the exalted goal which is man's destiny on earth. ■

The goal has not changed, but now we can approach it without paying the heavy price we have been paying these past 50 years.

U.S. SECURITY IN A SEPARATIST SEASON

By STEPHEN P. COHEN

The breakup of multi-ethnic states, not the demise of communism, may be this generation's most profound event.

August 14 is the first anniversary of the KGB-led coup that tried to preempt the new Union treaty in the Soviet Union. The failure of the coup led to the discrediting of the KGB, the downfall of the Communist Party, and the dissolution of the Soviet Union. The entity that was both feared and misunderstood for so many years came to a symbolic end when Mikhail Gorbachev, already stripped of his party chairmanship, resigned as president of the (former) Soviet Union on December 24, 1991.

Because the world still saw things in terms of an ideological struggle between West and East, many of us in the West were justifiably excited by the collapse of communism. However, insufficient attention has been paid to the broader implications of the breakup of the Soviet state. This was the second instance since the end of World War II of a modern multi-ethnic state collapsing—the destruction of Pakistan in 1971 (midwifed by the armed intervention of neighboring India) was the first. (Ironically, Pakistan itself was evidence of the difficulty of state-making—it was conceived in violence when the British left India in 1947.)

With separatist movements cropping up throughout the Middle East, Southern and Central Asia, and parts of Europe, it is important to understand that the Soviet Union disintegrated not only because of the political and economic collapse of communism, and the enfeeblement of its security forces, but because the Soviet state

was under extraordinary pressure from within and without. It may turn out that the crisis of the multi-ethnic state, not the disappearance of communism, will be the most profound political event of our generation.

This breaking-up process has far-reaching implications for U.S. foreign policy. In recent decades, Americans seem to have a special problem in determining if, where, and how Washington should intervene in a world made up of states of unequal power, stability, and importance.

Americans under 60 have lived their entire adult lives during one of two titanic struggles. The first was against the Nazi and Japanese empires in World War II, the second against Leninist structures and Stalinist expansionism in the Cold War. Yet traditional American isolationism survives, most recently speaking with the voice of television commentator and presidential candidate Patrick Buchanan. For some conservatives, the United States, as God's chosen country, can only be contaminated by contact with a corrupt world and scheming foreigners.

But nowadays, the conservative right has a new ally: the burnt-out left, still obsessed with the non-interventionist "lessons" of the Vietnam war. They think that America is corrupt—that it has failed to live up to its own ideals. To them, Washington cannot act abroad without creating victims.

Together, the two isolationisms threaten the rational conduct of foreign affairs. Without a significant, dramatic international threat, internationalisms of all varieties face tough going in the next decade. This could be dangerous to world peace. The fate of the political entities that develop and control nuclear weapons, that oppress or liberate their own people, should be

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Victims of the civil war in Yugoslavia: Woman in Zagreb mourns her husband, a militiaman.

of central concern to policy-makers. But it is hard to think about (and even harder to make policy about) such entities at a time when the state is disintegrating in so many parts of the world, and isolationist rhetoric shadows political discourse.

What is eating away at the legitimacy and power of the state—the entity that was the building block of international politics for the past two hundred years? Five factors have undercut the moral, economic, military, and political foundation of the modern, Western-style state.

■ **The state has lost its monopoly over information.** Galloping technologies have weakened the ability of the state to control the information flowing to its citizens. The two revolutionaries of our era are not Marx and Lenin, but Bell Labs and the Boeing Corporation—inventors, respectively, of the transistor and the wide-bodied jet. The transistor and its solid-state progeny have put modern communications receivers in the hands of individuals, families, and small groups. State broadcasting systems everywhere are forced to compete with the BBC, CNN, and the private Singapore-based Star radio and television services.

Meanwhile, jumbo jets make it possible for people and goods to move cheaply and rapidly across frontiers. In some cases this has meant new horizons and new ideas; in others, it has enabled older ties and linkages to extend across the world. Terrorists of all nationalities, for example, not only blow up jumbo jets but they ride in them, commuting between target state and safe haven.

The electronic and air travel revolutions have enabled ideas and people to move over and through iron and bamboo curtains. Although modern police states have used advanced electronics to spy upon and control their own populations, the race has been won by the "offense." At least temporarily, the bureaucracies of bugging and terror have been outmaneuvered by VCRs, cassette tape-recorders (crucial in overthrowing the Shah of Iran), small transistor radios, short-wave and satellite broadcasting systems, and discounted air tickets.

■ **The state cannot protect its citizens in wartime.** When Ronald Reagan said in 1985 that a nuclear war could not be fought, and, if fought, could not be won, he kicked away one of the most important props of the state since the mid-eighteenth century: the argument that it protected its citizens from the depredations of foreigners.

Ironically, the spread of nuclear weapons after 1945 at first seemed to strengthen the hand of the state. At no time in history did any state command such enormous military power as did the United States and the Soviet Union during the period of American and Soviet nuclear hegemony from 1950–1990. Even today, hawks in India, Pakistan, Iraq, North Korea, and other near-nuclear states seek nuclear weapons for statist, not strategic reasons. Yet, the breakdown of the Soviet Union suggests a very different lesson: mere possession of nuclear weapons is not enough to prevent the breakup of a state, let alone to insure the physical protection of its citizens from external attack—except by mutual suicide.

Indeed, as a state appears to become strong through the possession of nuclear weapons, its citizens become vulnerable, undefendable tar-

gets of the nuclear weapons of other powers. Short of developing a perfect strategic defense system, no state can ever again promise its citizens physical security. Reagan's staunch support of the Strategic Defense Initiative was no whim. He understood that nuclear weapons had transformed the role of the state, and only through a miracle of technology might the modern state regain one of its key functions.

■ **The state no longer insures economic prosperity.** States once claimed, sometimes erroneously, that only they could insure economic growth and justice within a given territory. The nineteenth-century model of the self-contained state embodied an evolution from basic agriculture, through a trading economy, to industrial self-reliance—dramatically symbolized, in the last century, by steel mills and rail networks, and today, by aircraft industries and nuclear power plants.

But the nineteenth-century model has been supplanted by a new model. Sub-national regions and territories try to link up with larger economic entities: a multi-national corporation, or a Japanese auto firm, or an American clothing retailer. Mayors and governors from Kansas to Guangzhou compete with each other for the favor of Mitsubishi or Motorola. They demand that their national governments either subsidize the process or get out of the way.

And, if the weather and geography are suitable, some regional leaders calculate that they can become stand-alone "tourist destinations." All they need is a beach or mountain scenery, and the jumbo jets bearing German and Japanese tourists will come, just as soon as the concrete hardens at the spanking new international airport.

Kashmiris, for example, looking at Nepal and Sri Lanka, have calculated that a regular air link with Europe and Northeast Asia could quadruple their income from tourists—and payments would be in hard currencies, not in Indian rupees. Only the Indian state—controlled by a New Delhi elite—seems to stand in their way.

■ **The state has lost its monopoly on justice.** Aristotle taught us that the object of politics is justice. Until very recently it was understood that the state—a Western invention—provided the context in which individuals and groups achieved justice. Further, it was also assumed that a large and powerful state could best guarantee justice within its borders, and secure justice vis-a-vis potentially hostile neighbors.

That is no longer true. International organizations, human rights groups and self-appointed spokesmen for democracy all challenge the state's claim to be the moral arbiter of its citizens' lives. When backed by the power of international lending institutions, or by the Japanese Export-Import Bank, or by the U.S. Congress,

these arguments carry unprecedented weight, and they have the unintended consequence of giving aid and comfort to some who would destroy certain states.

Earlier this year, all of the South Asian states jointly challenged the linkage of human rights and international loans. India and its neighbors are democracies with fairly good human rights records, but they resent—as violations of sovereignty—the application of human rights criteria by foreign institutions. They also fear that separatist groups will see this as an international endorsement of their aims and methods.

And, from a new quarter, Islamic movements not only challenge the dominance of secularized Western notions of justice and freedom, they undercut the grounds on which many rulers govern in secular Muslim-majority states or in states (such as India and the Philippines) that have large Muslim populations.

■ **The state is being attacked from within.** Multi-ethnic states are everywhere trembling in the aftermath of the breakup of the Soviet Union and the civil war in Yugoslavia. A once-heretical question is again being raised: Why should there be one China? Or one India? Or only two South Asian Islamic republics—Pakistan and Bangladesh? Or one Iraq, or one Sri Lanka? Why not three, or four, or five, or twenty?

Three generations ago, the great nationalist leaders forged anti-colonial movements by arguing that India, or the Dutch East Indies, or the Gold Coast, could achieve “unity in diversity,” that they could manage their complex societies better than foreign imperialists.

Today, separatist ethnic, regional, linguistic, and religious groups have turned the argument inside out. Contemporary Nehrus, Nkrumahs, Jinnahs and Titos argue that there can be greater economic progress, military security, and political justice in *diversity*—that the big-state apparatus is irrelevant in an era of global economic linkages and unusable military power. And, the new sub-national leaders see foreign lending agencies and human rights groups (which in America includes the far right as well as elements of the left) as allies, not enemies, as they press the case that the parts of the state are greater than the whole.

Larger implications

What does the crumbling of the state hold for the future? Four points seem to be crucial for the international community to keep in mind.

■ The classical state is not dead, even in those cases where new states rise from the corpse of the old. The state remains the model for those who would destroy it. We are not likely to see the new states of the world pass up the opportunity to acquire all of the trappings of sovereign-

ty: their own airlines, armies, navies, and even nuclear weapons programs.

But the new rulers will be sabotaged by the same forces that brought down their predecessors: an emerging global economy, new international standards of state behavior and human rights, and populations that cannot be easily controlled. Thus, there may be more states (the breakup of the Soviet Union and Yugoslavia has alone created 20 new ones), but their governments will be weaker. The entire foreign office of Kazakhstan consists of eight people, yet it is a republic that nominally controls hundreds of nuclear weapons.

■ The proliferation of states, either through the voluntary reorganization of existing entities (the Soviet pattern) or through civil war and chaos (first Pakistan, and more recently Yugoslavia, Ethiopia, and possibly Iraq) will interact with a second proliferation process—the rapid spread of weapons of mass destruction. Nuclear weapons and missiles are, respectively, 50- and 60-year-old technologies. These technologies have been mastered by thousands of scientists and technicians around the world.

The more unstable and nervous of the new state entities will reach for such weapons technologies and hope that they will insure the survival of the regime and of the state. But the lesson of the Soviet and Iraqi cases should not be forgotten: The disposition of these technologies is not solely dictated by old notions of national “sovereignty”; these weapons are of widespread concern beyond the state borders, and their spread may justify international or unilateral intervention.

Establishing nuclear non-proliferation as a firm international norm is important now, and it should be a factor that determines the conditions under which the United States supports—or refrains from supporting—states under attack.

■ It is unlikely that the state will be replaced by either global or regional political institutions as the unit of international politics. For better and for worse, we will have a world of states, not a world of effective international or regional organizations. The United Nations and one or two regional organizations may play a useful role in cushioning the impact of state breakup, or in some cases preventing it, but they will not attract the loyalty of great numbers of people, nor can they meet basic economic, moral, and political needs of sizable numbers of people.

While it is important to support nascent regional organizations, such as the South Asian Association for Regional Cooperation (SAARC) and the Association of Southeast Asian Nations (ASEAN), these groupings are no substitute for great-power engagement in regional security matters. The involvement may be intrusive and

The state is still the model, even for those who would destroy it.

With the number of states armed with weapons of mass destruction increasing, this is no time for isolationism.

even violent in cases where some states are trying to destroy others (the Middle East, certainly), or advisory in regions where there is a prevalence of vulnerable multi-ethnic states (South Asia). And great-power involvement may be vital in areas that lack any regional organization—especially Northeast Asia, the most dangerous area of all, where a divided state, Korea, interacts with a volatile combination of nuclear-weapons powers, advanced economies, and historical antagonisms.

■ It is time to abandon the deceptive vocabulary used to classify large numbers of states. In the 1950s, the euphemisms "developing" and "emerging" replaced "backward" and "undeveloped," which in their day were polite substitutes for "wogs" or "natives." But in the 1970s, another term arrived, further corrupting the discourse on state-building. "Third World" began as a euphemism for the "non-aligned," but then it acquired a vague social, political, and moral content.

To the right, Third World states were somehow poor, somehow threatening, and generally a danger to the rest of us when they fell upon one another, or acquired weapons of mass destruction. On the left, there was an effort to create the illusion of a class of states with shared moral qualities, a group that represented more than the sum of its parts. However, while the First and Second Worlds have conceptually vanished, the Third World remains, still shaped by Cold War constructs.

Thus, virtually every public figure today proclaims the existence of a "Third World" located somewhere along the Mexico-Bombay-Manila axis. Weirdly, China is not a "Third World" country, but India—with two hundred of its eight hundred million possessing a European living standard—is.

Western leaders, steeped in Cold War visions of strong enemies, long ignored the transformation of weak states into stronger states. Our understanding of the deeper destructive processes at work in many states around the world (and not all of them are poor, southern, or non-aligned) may have been compromised by such terms as "Third World," "South," and other euphemisms.

State building

In the United States, academic and government strategists who speak enthusiastically of a new world order need to look more carefully at the friable and imperfect material they are working with.

In a speech last November, John Reichart, a member of the State Department's Policy Planning Staff, characterized the "new world order" as an era of hope based on "cooperative diplomacy," adherence to human rights, and the spread

of market economies. The deplorable "old world order" was epitomized by containment, "a negative strategy." Containment was "what we were against"; the new world order is "what we are for."

But policy-makers need to devote as much attention to an understanding of the units out of which we are constructing a new world order as they do to the nature of that order. The fall of communism was an astonishing event, but so, in its own way, has been the breakup of the Soviet state. Other than China, there are no more communisms of consequence left to fail.

Nevertheless, the state in many parts of the world is under attack and most will not go as quietly. Their leaders have not lived under the shadow of nuclear terror for two generations, as did the leaders of the United States and the Soviet Union. Further, in most cases these leaders see the West as a threat, not as a potential friend. For the leaders of such states, and for those who would challenge them, weapons of mass destruction are likely to be seen as part of the solution, not as part of the problem.

The cliché of the day in the Pentagon and among its friends on the right is that our unstable new world is "more dangerous than ever." Meanwhile, on the left, there has been a convenient rediscovery of "human rights" violations and a growing indignation over state violence, coupled with virtual silence about the separatists, narco-terrorists, and murderers who are trying to tear apart a number of states. But between those who assume that there is nothing wrong with the state, and those who argue that there is nothing right with most states—between threat-of-the-day thinking on one hand and indignant liberal isolationism on the other—there is a prudent center.

Chester Bowles, a New Dealer who became an undersecretary of state in the Kennedy administration, understood that state building was an important national security interest of the United States. But Bowles failed as a strategist because he was not single-minded enough for the pugnacious Cold Warriors who surrounded him. They saw Bowles's interest in state building in Africa, Latin America, and Asia in a purely Cold War framework, not as an important aim in itself.

But Bowles was right. Today, many years after Bowles left the scene, multi-ethnic states are fragmenting, and the United States must make the best of it. Rather than observe from afar, we must have a foreign policy that takes this into account, especially when many of these states (or their successors) will have access to instruments of mass destruction. These states, in particular, need our understanding, assistance, and perhaps direct intervention to achieve the kind of stability that benefits them individually, and the world collectively. ■

After the unsuccessful August 1991 coup, the disintegration of the Soviet Union raised frightening questions about the fate of its enormous nuclear arsenal. Many feared that the republics on whose territories the nuclear weapons were located might become their owners by default—and that, as the Union broke up, fighting among the republics could lead to their use. Alternatively, others worried that nuclear control might simply break down. The Bush administration continued to support the crumbling central government, but in October 1991 former U.S. Defense Secretary Caspar Weinberger broke ranks, remarking that he would prefer that Soviet nuclear weapons be transferred to the republics rather than remain in “the uncertain control” of the central government.

Earlier, in 1990, the Soviet government had begun to claim that the republics actively wanted to take over the nuclear arsenal. This accusation was so absurd, however, that the republics offered to store the nuclear warheads in the Kremlin, and recommended that nuclear experiments be conducted in Moscow suburbs. But the central government did succeed in broadcasting the idea abroad that the nuclear control problem was a legitimate reason for resisting republican independence movements. The central government also persuaded the international community that if the nuclear arsenal could not be divided, the Soviet Union could not be divided. In other words, if only because of the nuclear infrastructure, the Soviet Union must continue to exist.

By the end of 1991 it was clear that this argument would not hold. No matter how desirable it might be for a central government to retain control over nuclear weapons, the center's future was dim. If the republics refused to sanction the continued existence of a center endowed with powers in the nuclear sphere, then the best solution—from the point of view of security—was to transfer control over nuclear weapons to the republics on whose territories they were located. The alternative was a dangerous and unnatural situation: a supranational central power with a nuclear-armed military force—and no one to support it. That possibility seemed likely to lead to a military regime, to a possible civil war, and to the end of democratic reform—all because of the center's insistence that it must control nuclear weapons.

Russia—the natural heir

As the Soviet Union finally disintegrated, Russia seemed the natural heir of the Soviet nuclear

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NYET TO FULL BATTLE DRESS

By VALERI DAVYDOV

ar arsenal—more than 80 percent of all nuclear weapons and production facilities were located on Russian territory. Without the republics' help in financing the military structure, an independent Russia was being asked to accept the entire burden of military expenses, including the high cost of nuclear weapons. Given the radically deteriorating economy, this burden would have been unbearable.

Still, the military-industrial complex of the former Soviet Union tried to get Russia to don the full uniform of a nuclear superpower. Had their plan succeeded, Russia simply would have collapsed under its weight.

Eventually, a reduced nuclear arsenal will be consolidated on Russian soil. And then the power of the Russian antinuclear movement will be revealed. Although Ukraine has suffered from the Chernobyl disaster, Russia has been repeatedly victimized by the military atom—the Chelyabinsk catastrophe, accidents at weapons-fuel plants, and more. Antinuclear sentiment was a factor in Russian Republic President Boris Yeltsin's announcement that the test site at Novaya Zemlya would close for a year, in his willingness to ban all nuclear testing, and in his proposals for more radical reductions in nuclear weapons than the Soviet government

If forced to carry the weight of a full nuclear superpower, Russia would simply have collapsed.



Vilnius, Lithuania, 1991: The Bush administration thought that the breakup could be stopped after the Baltics achieved independence.

had ever proposed.

With the exception of China, which has a comparatively tiny arsenal, Russia does not really have any nuclear enemies left. Some potential new nuclear states close to its borders—Israel, Pakistan, India, Iran, North Korea, or others—may force it to reconfigure some of its nuclear infrastructure. But these corrections would never require an arsenal on the Soviet scale. It is important for Russia to abandon the Soviet approach and the superpower mentality.

On the other hand, Russia's long-term interests as a nuclear state require that it be surrounded by nuclear-free states, and it is in both Russian and U.S. interests to remove nuclear weapons from the independent republics. Despite assertions that it is physically impossible to do so quickly, this is not the case. This is not a problem of moving missile silos or bomber bases. It involves only removing nuclear warheads and tactical weapons, which is entirely possible from a technical point of view.

The republics want the warheads to be systematically destroyed within the framework of agreements or treaties with the United States.

The other republics

The destruction problem can be solved if the United States will help by guaranteeing that the weapons will be liquidated—along with corresponding numbers of U.S. weapons. Until these nuclear weapons are destroyed, the republics will want some form of joint control and they will want to participate in talks with the United States about their liquidation. The republics may be using this issue to attempt to increase their political weight in the world community, but they also have good reasons to try to influence Russia's future nuclear politics.

As the republics seek recognition as independent nations from the world community, they should receive it—on condition that they join the Nuclear Non-Proliferation Treaty (NPT). The Baltic states declared their intentions to

sign the NPT at the same time they declared independence. Russia should ask this of the other republics, and the United States and other Western countries should support the request.

Merely signing the NPT, however, is not a sufficient guarantee that the republics will not pursue nuclear weapons. Nuclear-weapon-free zones could create additional assurances. Russia would like the other republics to follow the Baltic model; these states not only declared their nuclear-free status, they also want all nuclear weapons removed from their territories.

With encouragement, the republics might want to establish wider nuclear-free zones by joining with similarly inclined neighboring states. For example, the Baltic countries could participate with Scandinavian neighbors in a nuclear-free zone in Northern Europe, and Ukraine, Belarus, and Moldova might cooperate in creating such zones in Central, Eastern, and Southern Europe. The republics of the Caucasus might join in a zone in the Near East and the republics of Central Asia might join a South Asian zone.

Russia could encourage and support the creation of these zones by pulling nuclear weapons back from Russian border areas. The other leading nuclear nations, including the United States, Britain, and France, are Russia's natural partners in these efforts.

The view from Washington

The U.S. approach to Soviet disintegration was based on a simple three-part premise: that there had been a single nuclear state; that a single nuclear state should emerge; and that only Russia could be the heir. No matter how this position might discriminate against the other republics, Washington felt it could not assume any other.

The appearance of even two nuclear states in the place of one was seen as a catalyst for the spread of nuclear weapons into other regions, weakening the policy of controlling the nuclear ambitions of countries such as Israel, India, Pakistan, Iran, North Korea, and Libya. At the end of the Cold War, nonproliferation became a primary goal of the Western alliance. As the Soviet government crumbled, the greatest danger of proliferation was now within the former Soviet Union. At the beginning of the year, the Persian Gulf War with Iraq—a country secretly and intensely working on nuclear technology—taught the United States and the world community that nuclear weapons might well be used in future wars. That possibility assumed new importance in U.S. foreign policy, and it influenced the course of U.S. responses to Soviet disintegration.

Toward the end of the Cold War, productive dialogue between the United States and the Soviet government led to radical agreements to reduce both nuclear and conventional arsenals, and these agreements opened up brilliant possi-

bilities for cooperation, particularly in the area of nonproliferation. The physical destruction of Iraq's nuclear program, and the insistent common pressure on North Korea, Israel, India, and Pakistan to freeze their nuclear preparations, showed how well U.S.-Soviet cooperation could work. It looked as if a world order built on Soviet-U.S. cooperation would not be long in coming. All these considerations kept the Bush administration committed to the continuation of the central government.

But history had its own plans. Instead of remaining a pillar of nuclear nonproliferation, the Soviet Union, now disintegrating, was becoming a threatening source of nuclear spread of a magnitude never before encountered.

At first the Bush administration thought that the breakup could be stopped if the Baltic republics achieved independence. Washington was caught off guard when Ukraine, Belarus, and Kazakhstan declared their independence. The United States feared that the republics might block agreements with the Soviet government for reductions in strategic and conventional arsenals, and the Bush administration made it very clear that it would support the central government in its struggle with the republics to keep the nuclear infrastructure intact. This meant supporting the indivisibility of the Soviet Union.

It would not have been realistic to expect the United States, which was merely demonstrating the stereotypical thinking of all central powers, to take any other approach. U.S. thinking included the belief that Soviet nuclear weapons would cement the Union. In support of that belief the administration cited the example of NATO, which involved a high degree of cooperation between the United States and the predominantly non-nuclear countries of Western Europe.

But such cooperation was a function of the Cold War. Soviet nuclear weapons were not likely to exert the same unifying influence within the Soviet Union. Unlike the Soviet government, the republics had stopped believing long ago that the United States or NATO posed a threat to them. It was the central government itself that posed the main threat to their interests—in attaining independence.

Washington did not understand the republics' positions, and it reacted with indifference or apprehension to their suggestions. For example, the United States failed to respond to early calls by the Russian Republic for more radical agreements in the area of nuclear disarmament for fear of endangering its dialogue with the central government.

From euphoria to fear

After the failed coup, the United States was forced to reevaluate its most central national

For a long time, the republics felt less threatened by the United States or NATO than by the central government.

The United States was less nervous once the central government initiated the notion of shared control of nuclear weapons.

and international security question. Who would control the thousands of warheads in the country once called the Soviet Union? Washington had to immediately move from a policy of "see what happens" to "promise and restrain." The Bush administration had to acknowledge the existence of a triangle of nuclear relationships and to begin to talk to all of its constituents—the central government, Russia, and the other republics.

In the brief period that the central government remained, the Bush administration believed that it must induce it to ratify and fulfill all of the recent U.S.-Soviet arms control agreements, to reach new agreements, and to maintain secure and reliable physical control over Soviet nuclear weapons while discussing their future. Washington wanted to squeeze everything possible from the central government to diminish the risk of nuclear proliferation. The treaties signed with the central government, it hoped, would become the foundation and guarantee of cooperation and collaboration in the nuclear sphere. These treaties would become, in a sense, a heritage that all of the republics would follow.

Washington relied on the international non-proliferation regime in its approach to the republics. The United States and West European countries let the republics know very clearly that they could not count on diplomatic recognition or aid until they agreed to become members of the NPT and to observe international agreements on disarmament and security. The republics readily entered into a dialogue with the United States; and Washington, not Moscow, became the Mecca where they rushed to receive their blessing.

Having assumed the role of an honest broker between the center and the republics on nuclear matters, Washington faced another problem—it had to do everything possible to limit the possibility that the republics might, during the breakup, use nuclear control as an ace in the hole. Similarly, the republics had to avoid giving the central government any reason to use force to resolve the nuclear issue; they had to reduce any temptation for a central, military-controlled, non-reform government.

The central government's consistent speculations about the danger of nuclear proliferation had at least made Washington aware that the center had been using international anxiety about the issue of nuclear control to prolong its existence. Washington felt that if the center continued, it would do so only as a military government. A military takeover could trigger civil war, and even the use of nuclear weapons. Any prospect for democratic reform would be totally lost.

(This scenario had been modeled by the RAND Corporation in the form of a situational

game called "The Day After," in which political strife between the central government and Ukraine leads to a Ukrainian threat to take over missiles by force, with Kazakhstan planning a similar action. In response, Moscow explodes a nuclear device in the atmosphere near Kiev to prevent the possible seizure of missiles. U.S., French, English, and Chinese nuclear forces are immediately placed on alert. An international crisis threatens nuclear Armageddon.)

In the end, the United States was less nervous once the central government initiated the notion of shared control of nuclear weapons, with the republics receiving the right to veto their use. This greatly diminished the possibility that any decision to use nuclear weapons would be made. This two-key principle, used to control U.S. nuclear weapons on NATO territories, had worked well throughout the Cold War.

It was true that the republics' participation in future talks on strategic reductions could create difficulties. But these difficulties were likely to arise only if the republics objected to weapons destruction. Since Ukraine and Belarus had announced their intention to be nuclear-free states, such behavior looked improbable. And the republics could become U.S. allies against a common opponent—those central authorities who were still guided by the decrepit idea of parity or strategic stability. The United States had not realized that the republics did not share these conceptions when it tried to leave nuclear guardianship in the hands of the center, which had merely exploited the issue for its own political interests.

The United States viewed the tactical nuclear weapons that remained in the independent republics as a more urgent issue than strategic weapons; tactical weapons were particularly vulnerable to local seizure. In President George Bush's September 1991 proposal, this problem occupied a key position. Bush exhibited an innovative approach, offering a plan for complete destruction of all types of ground- and sea-based tactical nuclear weapons that would radically decrease the nuclear heritage the republics could potentially claim. Both Russian and central authorities readily accepted Bush's proposals, showing that they were also sensitive to the particular dangers posed by tactical weapons.

The administration hoped that the center could remove tactical weapons to Russian territory without the need for direct U.S. participation. But it did not reject the idea of acting in the role of mediator, and a number of U.S. weapons specialists proposed a variety of cooperative plans.

When the central government proved unable to prevent political or military disintegration, the United States was forced to reevaluate its relationships with the central government and

the republics. As odd as it may seem, U.S.-Russian dialogue on the question of nuclear nonproliferation and disarmament had been inferior to the dialogue between the central government and the republics. This is primarily because Washington was concerned that seeming to endorse active Russian leadership might frighten the other republics into early declarations of independence.

The existence of a central power blocked Russia from participating in discussions on preserving the political union of the republics, and planning for united military, strategic, and space commands. As a consequence, the United States regarded Russian leaders as stand-ins for the central authorities, to be informed once decisions were already taken, and to be restrained when they suggested alternate plans for disarmament and nonproliferation.

But a serious anxiety also hid behind this approach: The United States was afraid that Russian politics would torpedo the central government's effort to create a new union in the place of the old. Specialists in Washington reasoned that as long as the central government existed, Russia would not inherit the nuclear arsenal. Washington was blind to the Russian dilemma: The central government was trying to force Russia to assume the entire Soviet nuclear arsenal, as well as its foreign policy views, including imperial attitudes toward the other republics, and a belief in the continuation of superpower politics. Russia has neither the financial nor the psychological resources for such an inheritance.

Washington too did not want to face the possibility that Russia might decline the role of superpower. This would force the United States to reexamine the role of its own nuclear forces, and especially its plans to build new weapons. The demise of one of the nuclear-superpower Siamese twins might well cause the death of the other. This nightmare was swept under the rug for a while, and the Bush administration did not think about a long-term policy in relation to the new Russia.

Allies in word and deed

But if the administration did not think about it, other leaders and Congress did. In light of the former Soviet Union's economic crisis, without U.S. aid, both tactical and strategic weapons will merely be disarmed, not destroyed. The contents of nuclear warheads could disappear in a country torn apart by political discord, and could, after processing, reappear on the world uranium market in return for hard currency.

U.S. experts suggested a range of solutions. Some recommended a type of nuclear "Marshall Plan," under which the United States would

help destroy rockets and warheads, buying them with hard currency paid directly to the private citizens of the former Soviet Union. Others proposed less radical, yet still untraditional ideas—buying nuclear materials and storing them in the United States for eventual use in nuclear power plants. In one way or another, most of these suggestions tied nuclear disarmament to economic assistance.

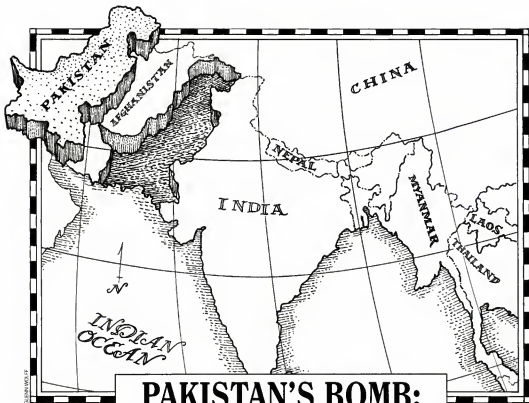
The U.S. Congress responded quickly. Most boldly, Sen. Alan Cranston introduced a bill titled "The Safety of Nuclear Warheads and the Plowshare Act, 1991," which called for U.S. purchase of fissionable materials from Soviet warheads in exchange for supplying agricultural products to the former Soviet Union. Cranston also proposed that both countries cease production of fissionable materials, and that all of their nuclear facilities be subject to International Atomic Energy Agency inspections. In November 1991, Congress voted to divert \$400 million from the Pentagon budget to a fund for the destruction of Soviet nuclear weapons.

The U.S. Congress has become the locomotive for long-term policies concerning nuclear weapons control. The Russian Parliament should become its natural partner. The two bodies should establish a permanent joint committee to deal with questions of nuclear proliferation. This committee could conduct common hearings to work out practical recommendations for coordinating U.S.-Russian policies to resolve both short- and long-term problems.

With unified control over strategic nuclear weapons in the hands of the Russian president, tactical nuclear weapons removed from the republics, and statements by Ukraine and Belarus that they intend to join the NPT, the level of nuclear danger has been greatly diminished. But the fact that in place of the former Soviet Union there are four de facto nuclear states raises questions about the future U.S.-Russian relationship. This is an affair of diplomatic art, and weak or strong, the Commonwealth of Independent States gives some new reference points for U.S. policy.

The major tasks ahead have now been defined. The risk that the republics will retain nuclear weapons or transfer them to "threshold countries" should be neutralized with new agreements. The danger of uncontrolled trade in nuclear technology and materials has to be prevented by means of integrating the republics into the NPT. And the "brain drain" of nuclear scientists from the former Soviet Union to countries with nuclear ambitions has to be suppressed by means of open cooperation in the conversion and dismantling of the Soviet nuclear weapons complex. Success will depend on the ability of the United States and Russia to end oppositional thinking and to move forward as allies, not in word, but in deed. ■

Washington did not want to face the possibility that Russia might decline the role of superpower.



PAKISTAN'S BOMB:

OUT OF THE CLOSET

By DAVID ALBRIGHT and MARK HIBBS

Pakistan now admits that its 15-year pursuit of nuclear-weapon technology has paid off.

As the Soviet Union breathed its last and Iraq's nuclear infrastructure was destroyed under U.N. auspices, the Bush administration redoubled its efforts to stem regional nuclear proliferation in the Middle East, on the Korean peninsula, and on the Asian subcontinent.

At the end of 1991, with the Cold War at an end and nuclear disarmament efforts making progress in South Africa, Brazil, and Argentina, Western diplomats hoped that India and Pakistan also might be persuaded to abandon their nuclear ambitions.

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But this March India rejected a U.S. State Department initiative for a regional disarmament conference. And Pakistan, which in the past has offered to sign the Nuclear Non-Proliferation Treaty (NPT) if India agrees to do so, signaled that if it attended a U.S.-sponsored nuclear disarmament conference its aim would be full diplomatic recognition as a de facto nuclear weapon state. Such an outcome is unacceptable to Washington.

Pakistani Foreign Secretary Shahryar Khan admitted in a February 7, 1992 *Washington Post* interview that his country had the components to assemble at least one nuclear bomb. Khan claimed he was revealing this information to bridge a "credibility gap" created by a previous Pakistani regime. But it is more likely that his admission was motivated by a desire to gain

recognition of Pakistan's nuclear status, and perhaps the renewal of U.S. aid to Pakistan. In 1985, Congress made aid to Pakistan contingent on the president certifying that Pakistan did not possess a nuclear weapon; aid was halted in 1990 when President George Bush could no longer do so.

Shahryar Khan's February announcement was certainly not news to experts who have tracked Pakistan's clandestine program. Many sources, including previously classified U.S. government documents, indicate that Pakistan has been pursuing nuclear weapons for more than 15 years, and that its seasoned uranium enrichment program is capable of producing enough weapon-grade uranium to build as many as six nuclear bombs per year.

Uranium

Pakistan began trying to enrich uranium in earnest in 1976, secretly establishing the Engineering Research Laboratories (ERL). According to a declassified 1983 State Department memorandum, gas centrifuge designs "were stolen by a Pakistani national" from the European technology holder, Urenco, the gas centrifuge enrichment consortium.¹ Most reports identify the agent as A.Q. Khan, a Pakistani metallurgist. The memo says that ERL had both acquired and produced components for gas centrifuges and for nuclear weapons. (In honor of Khan's contributions, ERL was renamed the A.Q. Khan Research Laboratories in 1981.)

The centerpiece of Pakistan's enrichment program is the Kahuta gas centrifuge plant near Islamabad. This facility began operating in the early 1980s, but has been plagued by chronic delays. The 1983 State Department memo says, "We believe that the Pakistanis have experienced difficulty in making their centrifuge machines work and that the Pakistanis have not yet produced any significant quantities of enriched uranium."

The memo also reports that Pakistan turned to China for help. The nature and the extent of Chinese assistance is unclear, but China may have helped Pakistan build centrifuges or cascades. One 1989 report stated that China had supplied enough weapon-grade uranium to make two nuclear bombs.² However, one U.S. official has said that this assistance is unconfirmed. He said that China might instead have helped by supplying unenriched uranium hexafluoride or "hex," the chemical form of uranium used in centrifuges. Pakistan obtained its own uranium hexafluoride production equipment from a German company in the late 1970s, but it could still have been experiencing difficulties in producing hex in the early 1980s.

In return for its assistance, China is believed to have received Urenco technology from Pak-

istan. China has had a gas centrifuge research and development program since 1958. It is unknown if China has built a production facility.

In 1984, A.Q. Khan announced that Kahuta was producing low-enriched uranium, but would not enrich uranium above the five percent level. However, U.S. intelligence concluded by mid-1986 that Kahuta was producing highly enriched, weapon-grade uranium.³

According to a 1986 memo prepared for Henry Kissinger, then a member of the president's Foreign Intelligence Advisory Board, Kahuta had the nominal capability to produce "enough weapons-grade material to build several nuclear devices per year."⁴ But the memo did not indicate the actual amount produced.

Before her visit to Washington in June 1989, Prime Minister Benazir Bhutto reportedly stopped weapon-grade uranium production, a step which the U.S. government was able to verify.⁵ But when Pakistan and India clashed over Kashmir in the spring of 1990, Pakistan resumed production and continued until some time in 1991, according to Shahryar Khan's February interview with the *Washington Post*.

Despite a wealth of public information on the qualitative aspects of Pakistan's program, little precise information is available about the amount of weapon-grade uranium Kahuta can produce each year, or about the total amount it has produced so far. We can only estimate quantities by considering the types of centrifuges Pakistan is believed to have obtained in Europe, and by estimating the number it has operated at Kahuta.

Stolen centrifuges

According to a Western enrichment expert, the first Urenco centrifuge designs Pakistan built were probably based on two first-generation prototype centrifuges designed by Ultra-Centrifuge Nederland (UCN), the Dutch partner in the trilateral Urenco consortium. These machines, the CNOR and SNOR, featured aluminum rotors, connected by bellows. The bellows act to reduce vibrations caused by resonant frequencies at certain operating speeds. Rotors that spin faster than the first of these frequencies are called supercritical. Bellows in supercritical machines allow for longer centrifuges, and thus, more separation of uranium, but they are considered difficult to master. CNOR and SNOR machines have an estimated separative capacity of 2 to 5 separative work units (a standard measure) per year.

Intelligence reports on the activities of Pakistani agents in the Netherlands in the 1970s concluded in 1980 that a small number of CNOR and SNOR machines were "spinning somewhere in Pakistan."⁶ Other sources report that Pakistan had trouble getting these machines to work on a large scale and started replacing

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them with more reliable machines based on two German Ureenco designs, the G-1 and G-2.

First-generation centrifuges were also being replaced by improved production models at the UCN plant at Almelo during the early and mid-1970s. Dutch intelligence believes that Pakistan obtained design information for the newer centrifuges in part through Khan's efforts—in 1974 UCN asked him to translate classified design documents for the German centrifuges. According to the statement of a senior German official, Pakistani agents obtained centrifuge components and design information in Germany as well.

Following the 1991 Gulf War, the International Atomic Energy Agency (IAEA) confirmed that Ureenco design information formed the backbone of Iraq's clandestine centrifuge program. German officials then speculated that the same

unknown German sources who provided Pakistan with information on the G-1 and G-2 might have also passed the information to Baghdad.

A G-1 centrifuge has a capacity of between 2 and 3 separative work units per year. The G-2s have an estimated capacity of 5 to 6 separative work units per year. The comparatively advanced G-2 machine is a supercritical centrifuge featuring two maraging steel rotor tubes connected by a maraging steel bellows.

Because Pakistan encountered difficulties building and operating centrifuges, it installed considerably more machines than it has successfully operated. In 1986, Kahuta was reported to have 14,000 centrifuges (see June 1987 *Bulletin*). U.S. officials confirmed that Pakistan might have built that many, but they estimated that only about 1,000 were actually in operation.

The letters of Abdul Khan

Abdul Q. Khan, the metallurgist who pioneered Pakistan's uranium enrichment and nuclear bomb development program, was able to get secret design information, materials, components, and manufacturing equipment from Europe's Ureenco enrichment program and its supplier network nearly 15 years before Iraq began doing similar things.

From 1972 through 1975, Khan worked at FDO, a Dutch engineering firm collaborating with Ultra-Centrifuge Nederland (UCN), the Dutch firm in the Ureenco consortium. After Khan left FDO, he returned home, where he took charge of Pakistan's Engineering Research Laboratories. Faced with a primitive industrial infrastructure, Khan and his procurement agents set out to buy the components and the know-how they needed to build gas centrifuges.

In the summer of 1976, Khan wrote to Frits Veerman, a technician and photographer working with the Dutch Ureenco project; Khan had developed a close relationship with Veerman while working at FDO. After gaining Veerman's confidence, Khan sent a letter that was hand-delivered by a Pakistani embassy official. "I ask you in great confidence to help us," Khan wrote. He told Veerman that Pakistan "urgently" needed technical specifications for etching the highly sensitive spiral grooved pattern on the tiny hard metal ball a few millimeters in diameter that is part of the centrifuge's bottom bearing assembly. Khan also "very much wanted" photographic negatives of the design of the pattern.

Khan pressed Veerman to get him three or four examples of photo-etched bottom bearing

balls, and the same number of metal membranes and steel springs for the damping mechanism of the bottom bearing assembly of the CNOR centrifuge that UCN was working on (see figure). "Frits," he wrote, "this is absolutely urgent since [without the membranes and springs] the entire research project has been halted."

Khan told Veerman to contact Franz Frencken, another employee. "I was a good friend of his," Khan wrote. "Ask him if he would be interested in paying me a visit. I would have some technical work for him and a lot of photographic work for you. Why don't you both spend a vacation here [in Pakistan] and earn some money at the same time?"

A suspicious Veerman handed Khan's letter over to the company. Although Khan claimed that the information he wanted about bottom bearings was not sensitive, his 1976 letter to Veerman was used against him in November 1983, when he was sentenced *in absentia* to four years in prison for trying to steal uranium enrichment secrets from the Netherlands. His conviction was overturned in 1985 by an appeals court that ruled that the prosecutor's office had not properly delivered its summons to him.

Khan also asked Ureenco employees of Pakistani origin to help. According to a 1980 Dutch investigation, two Pakistani nationals employed as quality inspectors in the Dutch Ureenco effort were "active helpers of Khan."

In 1977, A.Q. Khan wrote to Abdul Aziz Khan, an electrical engineer living in Canada, who was later involved in obtaining parts for the high speed inverters that power centrifuge motors. He asked him to come home to work on a "project of national importance" for which

One official added that Pakistan's centrifuge "junk pile is sizable."

The estimate of 1,000 machines in operation is consistent with a 1986 report in the *Muslim*, a daily newspaper in Islamabad. The *Muslim* reported that Kahuta was "rumored to have 1,000 centrifuges, against a planned capacity of 2,000 to 3,000 centrifuges." The 1983 memo asserted that Kahuta is "eventually to house several thousand machines."

One U.S. official we interviewed in spring 1991 said that Pakistan was operating nearly 3,000 machines at Kahuta. Pakistan now has the manufacturing capability and know-how to increase the number of machines. But the official said that Pakistan was concentrating on developing more advanced machines and replacing older centrifuges rather than in-

creasing the number in operation.

We believe that most of Pakistan's centrifuges are based on the G-2 design, although a significant number of the machines could be based on less capable German and Dutch designs. Assuming a mix of types, each with a capacity of between 3 and 5 separative work units per year, Kahuta could produce about 9,000 to 15,000 separative work units per year. This is enough to produce about 45 to 75 kilograms of weapon-grade uranium a year, assuming that natural uranium is fed into the plant and that about 0.3 percent of the uranium 235 is left in the waste, or "tails." If Pakistan had sufficient uranium hexafluoride stocks, it could accept a higher rate of waste. With a 0.5 percent tails assay, Kahuta's annual production could be 60 to 100 kilograms of weapon-grade uranium.

Pakistani scientists in Britain and the United States were being recruited.¹ A.A. Khan declined, but he agreed to collect technical literature in the United States and Canada and to come to Pakistan during his vacations to train young engineers working in the program.

In 1978, A.Q. Khan asked one of his friends, a Mr. Akhtar, to "send the names and addresses of Pakistani engineers" attending a Muslim engineers' conference in North America.² He said, "Now, let us see how many addresses and names he would bring from there."

His efforts evidently bore fruit. In 1978, Khan wrote to A.A. Khan: "Slowly and gradually people are joining."

After the exposure of Pakistani activities in the late 1970s, Britain and the United States established more stringent embargoes on exports to Pakistan. Khan then lamented in one letter to A.A. Khan, "The Britishers are stalling it more than before. They are even stopping nails and screws." In another letter he added, "All our material has been stopped, everywhere they are delaying it. Now we will have to do some work ourselves."

Khan's persistence has paid off. By the late 1980s A.Q. Khan and his colleagues were publishing articles in Western technical journals that demonstrated Pakistan's self-sufficiency in manufacturing and assembling centrifuges. One U.S. official said these articles not only show what Pakistan knows, they suggest that Khan is "boasting and displaying his ego."

One Pakistani article is the only study ever made public on constructing maraging steel bellows. Urenco considers public mention of the bellows a violation of its secrecy requirements. These flexible joints between rotor tubes are considered by centrifuge experts to be extremely difficult to make. One U.S.

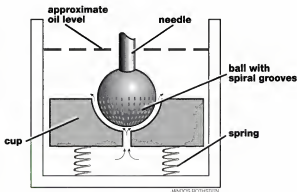
expert characterized the Pakistani knowledge of bellows displayed in the article as "relatively competent."

In 1987 Khan co-authored an article on balancing ultracentrifuge rotors which describes the process for rotor tubes connected by bellows. Balancing supercritical rotor tubes requires sophisticated equipment and is considered more difficult than balancing single rotor tubes of the type Iraq was developing before the Gulf War. The stated purpose of the study is to "provide useful and practical information, as technical information on balancing of centrifuge rotors is hardly available because most of the work is shrouded in the clouds of the so-called secrecy."

—D.A., M.H.

1. John J. Fialka, "How Pakistan Secured U.S. Devices in Canada to Make Atomic Arms," *Wall Street Journal*, Nov. 26, 1984.

2. Sreedhar, *Pakistan's Bomb: A Documentary Study* (New Delhi: ABC Publishing House, 1986), p. 33.



Rough schematic of centrifuge bottom bearing assembly. Spiral grooves on bearing act to pump oil up through the cup, reducing friction. Oil also damps motion of cup assembly. Not shown: damping mechanism detail and membrane.

**In 1981
and 1982,
European
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nuclear
device."**

Assuming that a nuclear device requires about 15 kilograms, Kahuta has the capability to produce enough weapon-grade uranium for 3 to 6 devices a year.

Kahuta, however, has not operated at nominal capacity for most of its history. By the end of 1991, Pakistan had probably produced between 100 and 200 kilograms of weapon-grade uranium, based on a variety of tails assays and separative capabilities.¹⁵ This is enough material for roughly 6 to 13 nuclear explosive devices.

Pakistan is building a second enrichment plant at Golra, about six miles west of Islamabad. A 1987 British report implied that "several thousand centrifuges" would be installed there.¹⁶ According to a U.S. official, Pakistan has had problems getting equipment from abroad, and therefore progress in completing the facility has been slow and sporadic. Western intelligence reports suggest that Golra is being used to test a small number of advanced supercritical centrifuges before they are installed at Kahuta.

Reprocessing

One U.S. official interviewed in 1991 said that Pakistan had completed a small reprocessing plant called "New Labs" at the Pinestech complex near Rawalpindi. New Labs is based on blueprints delivered by France, with key equipment bought from a variety of suppliers.

According to the 1983 State Department memo, New Labs would need several years to separate enough plutonium for a nuclear weapon. The memo adds, however, that New Labs seemed to be large enough to allow for expansion of its reprocessing capacity.

Because Pakistan lacks a supply of unshielded irradiated fuel, raw intelligence reports have claimed—and experts have speculated—that Pakistan has been trying to build a nuclear reactor that would generate significant amounts of plutonium.

Recently, more information about Pakistani procurement was revealed in Bundestag committee hearings, which included the testimony of the prosecutor in the 1990 trial of German nationals who helped Pakistan to obtain illegal materials.¹⁶ Rudolf Ortmeier, a German engineer convicted in 1990 of having illegally exported nuclear goods to Pakistan, testified before his trial that the piping he supplied in the late 1980s was "for construction of an indigenous primitive, pool-type reactor." The aluminum fuel-cladding material Ortmeier supplied would not have been usable in Pakistan's existing reactors.

Based on Pakistan's procurement of a wide array of related equipment, and the revelation of its program to produce large amounts of nuclear-grade graphite, the West German intelligence agency, the Bundesnachrichtendienst, reported in late 1983 that Pakistan had probably

begun to develop an indigenous reactor.

It has still not been established that Pakistan is building a reactor for plutonium production. But Pakistan has had Chinese assistance in building a tiny research reactor that contains about one kilogram of Chinese-supplied weapon-grade uranium fuel that is under IAEA safeguards. Without a much larger reactor, Pakistan could separate only tiny amounts of plutonium from the small quantities of fuel it could legally withdraw from safeguards. A U.S. official believes that Pakistan probably did some experimental separation of plutonium.

Weaponization

Like Iraq, Pakistan was simultaneously developing the ability to produce fissile materials while trying to master weapon design and production. Its weapons design efforts began over 15 years ago, and they required substantial foreign assistance. The 1983 State Department memo says that "nuclear explosive design and development work began in Pakistan soon after the 1974 Indian nuclear test."

The work was assigned to an organization within the Pakistan Atomic Energy Commission, which studied implosion hydrodynamics, neutronics, high explosives testing, and metallurgy. The 1983 memo says that Pakistan subsequently worked on an electronic triggering circuit for detonating the high explosives, and experimented with shaped charges. It concluded that "Pakistan has already undertaken a substantial amount of the necessary design and high explosives testing of the explosive triggering package, and we believe Pakistan is now capable of producing a workable package of this kind." A dummy core of natural or depleted uranium would be used to test the non-nuclear high explosive triggering or implosion package for a nuclear weapon.

U.S. officials have said on many occasions since the early 1980s that Pakistan received a proven weapon design from China. It has been reported that the design was that used in China's fourth nuclear-weapons test in 1966 at Lop Nor. This test involved the detonation of a warhead carried by missile. If Pakistan received a copy of this design, then its warhead is probably much smaller than early Chinese aerial bombs and could operate under the more exacting conditions of delivery by missile.

In a recent interview, one U.S. official cautioned that receiving a "cookbook design doesn't mean that you can make a cake on the fly." It took Pakistan 10 years to enrich uranium, even with Urenco centrifuge designs and extensive knowledge about Urenco experts and suppliers. Pakistan would probably have required several years to build bombs after getting the design.

Little is known about the particular Chinese

design. A U.S. official said in a 1991 interview that it utilized a nearly solid sphere of weapon-grade uranium with a tiny hollow core, surrounded by a tamper and high explosives. Such a design would require about 15 kilograms of weapon-grade uranium.

Pakistan also got bomb components and test equipment in Europe and the United States. According to the 1983 State Department memo, in late 1981 through 1982 European companies sold Pakistani procurement agents metal components that were "unambiguously identified as those of a nuclear device." Pakistani agents also tried to get precision lathes and associated equipment, specifically for the manufacture of bomb components. Following U.S. government protests, Pakistan shifted "from procurement of weapons components themselves to procurement of machinery necessary for their manufacture."

One of the more difficult problems in building a nuclear bomb is the neutron initiator, which starts the fission chain reaction at the right moment by injecting a spurt of neutrons. Recording a sharp neutron signal while testing an implosion package would provide confidence that the bomb would work. Pakistan would have several initiator options. All, however, require either an alpha-particle source—most likely polonium 210—or tritium. In the first type, polonium is mixed with beryllium at the right instant, and the alpha particles from the polonium 210 interact with beryllium to produce neutrons. A tritium initiator requires fusion of tiny amounts of tritium and deuterium, resulting in high-energy neutrons. Tritium initiators are generally considered more difficult to build than polonium-beryllium initiators. (Iraq was pursuing a polonium-beryllium initiator, probably for this reason.)

But polonium-beryllium initiators have a great disadvantage. The half-life of polonium is only about 140 days; tritium has a half-life of 12 years. To keep weapons with polonium initiators functional would require a constant resupply of polonium. Pakistan's most probable source of polonium is safeguarded reactors, but producing

polonium for nuclear weapons in civilian reactors would violate Pakistan's safeguards agreements with Canada, the IAEA, and the United States. And if Pakistan were caught, its ability to field usable weapons would be jeopardized.

One U.S. official said that the United States is satisfied that Pakistan has not created polonium in its safeguarded reactors. If not, then Pakistan has probably developed tritium initiators, even though they are considered more difficult to develop. China may have given Pakistan the design for a small tritium initiator. The initiator, located at the center of the weapon-grade uranium core, would require a design that could produce a more symmetric converging shock wave. In 1987, Pakistani agents smuggled 0.8 grams of pure tritium gas they had obtained from German parties who were convicted of illegally exporting tritium in 1990.¹¹ This would be enough tritium for a number of neutron initiators.

Pakistan is probably looking at the development of more sophisticated fission bombs, boosted fission bombs, and perhaps hydrogen bombs. One of the Germans convicted in 1990 testified that his Pakistani clients were trying to obtain equipment and materials for an H-bomb program.¹² Declassified documents confirm that Pakistan has engaged in a long and increasingly sophisticated nuclear weapons program, and Pakistan's attempts to build a tritium production facility during the late 1980s may also have been motivated by a program to develop tritium-boosted fission weapons.

Information from the trial of Ortmayer and others in 1990 suggested that Pakistan did not get all the equipment it needed to begin operating a tritium purification plant. But some equipment was supplied from Germany and was tested in Pakistan. Moreover, the testimony recorded that "plans and the know-how for the tritium facility were supplied" in 1987.

However, without a proven design for a significantly more sophisticated fission weapon, a boosted fission weapon, or a thermonuclear device, it is doubtful that Islamabad could develop one without full-scale testing. ■

1. U.S. State Department, *The Pakistani Nuclear Program*. Washington: GPO, June 23, 1983. (Obtained under the Freedom of Information Act by the National Security Archive, Washington, D.C.)

2. Simon Henderson, "Pakistan's Atomic Bomb," *Foreign Report* (Jan. 12, 1989).

3. Bob Woodward, "Pakistan Reported Near Atom Weapons Production," *Washington Post*, Nov. 4, 1986.

4. National Archives, *U.S. Nuclear Non-Proliferation Policy: 1945-91*. (To be published, 1992), document no. 022.

5. Mushahid Hussain, "Nuclear Issue: Ball is Now in Pakistan's Court," *Nation* (Lahore), Nov. 29, 1990.

6. Report of the 2nd Chamber of the States-General (Parliament of the Netherlands), Session 1979-80, Report 16, 082, no. 1-2, p. 26.

7. A. Fareed Ameen, "The Mythical Bomb," *Muslim* (Islamabad), Aug. 5, 1986. Quoted in Shahid-ur-Rahman

Khan, "Fear of U.S. Aid Cutoff Said to Have Deterred Pakistan's Bomb Program," *Nuclear Fuel* (Aug. 11, 1986).

8. For a full explanation of this estimate, see D. Albright, F. Berkhout, and W. Walker, *World Inventories of Plutonium and Highly Enriched Uranium* (Stockholm: SIPRI, forthcoming 1992).

9. Simon Henderson, "Pakistan Builds Second Plant to Enrich Uranium," *Financial Times* (London), Dec. 11, 1987.

10. Testimony of Reinhard Heubner, Federal Prosecuting Attorney, Hanau District, before the Second Parliamentary Investigating Committee of the Deutscher Bundestag, Bonn, Germany, April 15, 1989, p. 60/25.

11. Ibid., pp. 60/26-42.

12. Mark Hibbs, "German Firms Exported Tritium Plant to Pakistan," *Nuclear Fuel* (Feb. 6, 1989).

"We need to do something"

**Cardinal Choices:
Presidential Science Advising from
the Atomic Bomb to SDI**

by Gregg Herken
Oxford University Press, 1992
352 pages; \$24.95

ROY D. WOODRUFF

Beginning with the discovery of nuclear fission in 1938 and concluding with a chapter on "The Present and Future of Presidential Science Advising," the author focuses on the role scientists have played in advising the president on what the late British physicist and novelist C. P. Snow called the "cardinal choices—the choices that in the broadest sense determine whether we live or die."

While Smithsonian historian Gregg Herken acknowledges the important relationship between science and government for many "choices outside the realm of nuclear weaponry," and has included some excellent material (on the supersonic transport controversy during the Nixon administration, for example), the book focuses mainly on the technical and policy choices made with regard to national defense and nuclear weapons.

I began by reading Chapter 12, "The President. Doesn't Care about Wavelengths: The Reagan Revolution and

the Origins of SDI." During this period (1980–1985), I headed the Lawrence Livermore National Laboratory nuclear weapons program, which included the nuclear explosive-driven X-ray laser research, and I did not want to wait for a more ordered reading to learn what the author had to say.

Whether the topic was MX missile basing or the bizarre events that led to Ronald Reagan's March 23, 1983 SDI announcement, I found Herken's account of this incredible era in "science" advice to the president generally consistent with my experience and information. I also learned that Reagan's science adviser during most of this period, George Keyworth, said shortly before leaving his post that "we need to take a hard look at how science and technology is managed. . . . We have reached the point where we need to do something." At least on this point, Keyworth and I agree.

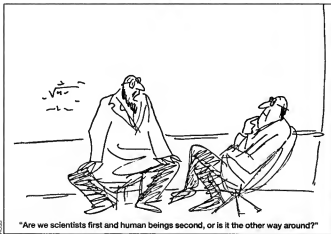
The first quarter of the book, "The Advent of Nuclear Weapons," describes the actors and events associated with the development and use of the atomic bomb. From the initial attempts by Leo Szilard, Albert Einstein, and the other predominately foreign-born scientists to provide ad hoc science advice to the U.S. government (and eventually to President Roosevelt), through the decision to build the atomic bomb and the "debate" about whether to use it, to the successful test of the H-bomb on October 31, 1952, the author presents an excellent review of the issues and people associated with our entry into the nuclear age.

The second part of the book, "Fragile Hopes, 1953–1960: The Impetus toward Arms Control," covers the transition era in science advice. Just as the scientific community and government began to truly appreciate the implications of science (and science policy) in the nuclear age, the intensifying Cold War and the hysteria associated with "atomic spies" and the McCarthy inquisitions served to restrict the breadth and quality of the advice available to the president. The author says, "The scientists on the GAC [General Advisory Committee, U.S. Atomic Energy Commission] who might logically have been expected to be Eisenhower's chief advisers on the bomb, remained, as a group and individually, silent in the face of storm clouds gathering around [J. Robert] Oppenheimer's career." And AEC Chairman Lewis Strauss, "who made no secret of his deep and lasting enmity for Oppenheimer, henceforth replaced the physicist as the government's leading authority on atomic policy." Thus, Strauss and his advisers—Edward Teller, Ernest Lawrence, and John von Neumann, became Eisenhower's first de facto advisers.

After the Soviet Union launched Sputnik I on October 4, 1957, the president implemented a long-standing idea by appointing a full-time science adviser with an office in the White House, and creating a part-time science advisory committee. Eisenhower announced the creation of the President's Science Advisory Committee (PSAC) in a nationwide televised address.

Sputnik may not have been the only impetus for the formation of PSAC. Herken offers a fascinating account of an October 29, 1957 meeting in the Oval Office between Isidor Rabi, Lewis Strauss, and President Eisenhower. The confrontation between Rabi and Strauss may have "finally awakened the president to the existence of a long and deep ideological split within the scientific community." Eisenhower wrote in his diary that day: "I learned that some of the mutual antagonisms among the scientists are so bitter as to make their working together almost an impossibility. I was told that Dr. Rabi and some of his group are so antagonistic to Doctors Lawrence and Teller that communication between them is practically nil."

In Part III, "Guarded Futures, 1961–



1988: *The Perils and Promises of New Technology*," the author turns to the topic of formal science advice. President Kennedy effectively used his science adviser, and the then-current and former members of the PSAC, to offset the assertions of the nuclear weapons lobby that neither a complete ban on nuclear testing nor a ban on testing in space or the earth's atmosphere was advisable. The high point in formal science advising may have been the 1963 Partial Test Ban Treaty (PTBT), which marked the culmination of a six-year effort by three science advisers.

Over the summer of 1963, science adviser Jerome Wiesner effectively marshaled support for the PTBT. By summer's end, it was clear that the ratification hearings before the Senate Foreign Relations Committee would be the site for a public showdown between pro- and anti-ban scientists. The anti-ban scientists included John Foster, director of the Lawrence Radiation Laboratory and, of course, Edward Teller. To counter their efforts, Wiesner brought in scientists who favored the PTBT. In addition to former science advisers James Killian and George Kistiakowsky, they included former Livermore Laboratory Directors Harold Brown and Herbert York, AEC Chairman Glenn Seaborg, and Los Alamos Director Norris Bradbury. The highlight of the campaign for the PTBT was the ban's endorsement by some 35 Nobel laureates, which National Security Adviser McGeorge Bundy used to directly refute claims made by Teller and Foster. "The statement [of the Nobel laureates] can be used as additional evidence that Dr. Teller is speaking not for the scientific community, but rather against the position taken by the overwhelming majority of informed scientists," Bundy wrote to the president.

Of course, 1961–1988 included some lows in science advice to the president, and Herken covers some of the more difficult issues. The supersonic transport (SST) controversy, before Nixon abolished the committee in January 1973, is most informative. PSAC physicist Richard Garwin headed a panel that reviewed the SST; their 1969 report was critical and recommended outright cancellation of the project. Ignoring the recommendation, President Nixon announced in a September 1969 press conference that he had

decided to go ahead with the SST, and the administration refused to make any portion of the Garwin study public.

Three days after Nixon's announcement, Garwin wrote to all the SST panel members: "I believe that the communication in any administration, and in particular in the present one, is sufficiently poor, and the need for education of responsible officials so great, that it is unwise for high-level advisers on publicly known issues to restrict their advice to one person."

Garwin was always careful to note that the views he expressed were his alone, but his subsequent congressional testimony clearly established where he stood on the SST issue. Garwin's decision to act "no longer as adviser but as citizen" resulted in a controversy within the administration, the PSAC, and the scientific community that, I believe, has not yet been resolved. According to Herken, opinions are divided as to the effect of this controversy on President Nixon's decision to disband the PSAC. Clearly there were a multitude of possible reasons, "among which the Garwin incident seemed, in retrospect, only the proximate cause."

One member of the committee, Donald Hornig, considered Garwin's action "entirely out of line," believing that he should have resigned before going public. But Wolfgang Panofsky argued that a current PSAC member should not be precluded from advising those outside the committee or the White House, on the premise that "you cannot get good advice if the president owns your opinion before all possible fora." The footnotes reveal that, in a congressionally sponsored poll, the opinions of the members of the National Academies of Science and Engineering were almost evenly divided on this subject.

Cardinal Choices will be a valued reference in my library, although the book has some weaknesses. The author says that the book is not intended as a comprehensive history of presidential science advising; it is about advice that scientists have given the president. I was disappointed that Herken did not expand on the negative effects of government secrecy or the general lack of interest in the science policy process. Still, examples of these problems were included. The two most interesting occurred at the outset of the nuclear

age. Apparently, the army threatened Leo Szilard—even though the war had ended—with prosecution under the espionage laws if he disclosed the existence of a petition that called for withholding the atomic bomb's use until the surrender terms offered to Japan had been made public and the Japanese had been given a chance to surrender. The author also includes Szilard's remarks that he and most of his colleagues "refused the numerous requests to speak over the radio or before groups on what the atomic bomb was and what it might mean to the world, we kept silent." I doubt these issues were unresolved in 1945.

I am certain that dubious security "requirements" and the threat of administrative sanctions has had a negative effect on the quality of science advice that administrations have received in the 1980s and 1990s from both the defense and general scientific communities. I also found the concluding section relatively weak when compared to the rest of the book. For example, the author argues that a science adviser serves two masters—the president and the scientific community—and in a conflict, the adviser's first loyalty should be to the president. Herken continues, "In the event that the science adviser feels such loyalty may be at the expense of the nation's best interests, resignation should precede protest."

What happens to the principles of scientific objectivity and peer review? Herken adds that "no scientist advising the White House should consider himself or herself the president's slave, since that implies a willingness to sacrifice the very independence of judgment which makes the expert's advice valuable." Nevertheless, he offers no realistic solution to potential conflicts.

I have no strong objections to the author's general recommendation that a science adviser should deliberately remain "somewhat apart from the political fray" and that the president should respect his separation, but I was nonplused by his supporting statement: "Although science advisers have in the past been effective salesmen for particular policies, most notably the nuclear test ban and the SDI, the long-term cost has been to the credibility of the office."

In my opinion, the contrast between the sound and focused advice received by the president from the science adviser

er (and the general scientific community) on nuclear testing issues, compared to the chaotic discussions about SDI that opened the door for the "weird science" that has cost billions over the past eight years, couldn't be more stark. Indeed, I hope we can reinstate the PSAC and find science advisers of the caliber of Killian, Kistiakowski, and Wiesner before it is too late. ■

Roy D. Woodruff, former head of the Lawrence Livermore National Laboratory's nuclear weapons program, now directs the Los Alamos National Laboratory's Nonproliferation and Arms Control Program. The views expressed are his own.

Camera on Cuba

Eyeball to Eyeball: The Inside Story of the Cuban Missile Crisis

by Dino A. Brugioni
Random House, 1992
662 pages; \$35.00

RICHARD NED LEBOW

Dino Brugioni, a retired career intelligence official, was intimately involved in the founding and operation of the CIA's National Photographic Interpretation Center. On the basis of his personal experiences and research, he has tried to write a comprehensive history of the Cuban missile crisis. He has not succeeded.

The strongest part of this long book is the approximately 50-page description of the role photo-intelligence played in the crisis. Brugioni skillfully conveys the professionalism and excitement that motivated photo-analysts—enabling them to identify Cuban base construction sites and to provide the president with accurate information about the scope and pace of the buildup. This material would have made a good article, not a long book.

Brugioni is out of his depth in dealing with the rest of the crisis. His interpretation is unoriginal; he repeats traditional Cold War explanations for the missiles' deployment and Kennedy's success in forcing their withdrawal. His research is based solely on second-hand sources and covers well-known ground. Brugioni refers periodically to some of the recent

Soviet reflections on the crisis, but they are not seriously incorporated into the narrative, nor do they influence his description of Soviet policy. These failures lead him to make errors—for instance, his "guess" that Khrushchev decided to deploy the missiles sometime in the fall or winter of 1961 (Soviet officials now indicate that it was in April or May of 1962)—and to ignore many interesting analytical questions posed by the wealth of newly available material.

Brugioni's treatment of photo-intelligence will be of interest to the specialist, but the general reader would be well advised to await the publication of studies that make use of previously classified U.S., Soviet, and Cuban documents now available; they may present a more thoughtful historical perspective on the crisis. ■

Richard Ned Lebow, a professor at the Graduate School of Public and International Affairs at the University of Pittsburgh, is co-author of We All Lost the Cold War (forthcoming).

The forgotten war

**Drawing the Line:
The Korean War, 1950–1953**
by Richard Whelan
Little, Brown and Co., 1990
428 pages; \$24.95

BRUCE ZELLERS

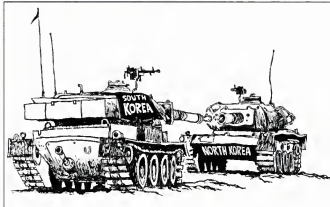
Drawing the Line offers an interpretation of the "forgotten war" in Korea

that is generally critical in approach and often indignant in tone, but fails to break new ground or to explore current controversies systematically.

Richard Whelan's previous books explored U.S. cultural history; here he is interested in Korea's place in the "context of the global cold war." While ignoring the fighting itself, Whelan manages to describe much of what went wrong in Korea—and would later go wrong in Vietnam. Although not intended as a polemic, *Drawing the Line* shows the innocence, egotism, and pusillanimity of the policy-makers in Washington, Tokyo, and Seoul. These attributes may begin to explain why the Korean War has been "forgotten."

Whelan seems to harken back to a Cold War interpretation when he defends the U.S. intervention, arguing that North Korea was "Soviet dominated," that the attack was "devised by Soviet military advisors," and that "Stalin certainly authorized" the invasion. In later chapters he pulls back from this position, which is not widely held today—and certainties become surmises. He offers no explanation for the ambiguities. Here, as elsewhere, controversial issues are not clearly examined. Whelan's discussion of the U.S. response, on the other hand, is a model of clarity. He argues that President Harry S. Truman sought to protect "American credibility and prestige" through an act symbolizing U.S. resolve.

Ending the war after the liberation of Seoul (in September 1950) would have been a "policy of wise moderation," Whelan feels. But with North Korean armies in disarray, a combined U.S.-Korean force marched into North



DRAWING: THE NATIONAL ENDOWMENT FOR THE ARTS

Korea. To Whelan, the attempt to reunify Korea by force set the United States "irrevocably on a course to disaster." Whelan blames President Truman more than Gen. Douglas MacArthur, the field commander, for China's disastrous large-scale intervention. He describes MacArthur, a "pompous, arrogant, and tedious" man whose "pathological mood swings" distorted his judgment, as being partly to blame. But Whelan argues that MacArthur's "habitual disobedience" was actually encouraged by the "cowardly, irresponsible, [and] dangerous policy" of buck-passing in Washington: "Washington was, as the saying goes, covering its ass." Thus, U.S. troops invaded North Korea—and MacArthur took the blame for the resulting disasters. Few historians will quarrel with this analysis.

Games were played elsewhere as well. Korea was the first U.N.-sanctioned war, but U.N. input was strictly perfunctory. Whelan claims that the international body was converted into a mere extension of U.S. policy, the "free world counterpart to the Cominform." At Lake Placid, "the United States consistently exhibited a rather unsavory legalistic deviousness" and "rather brazenly distorted" the meaning of some early resolutions. When peace talks began, the entire negotiating team was American. At Panmunjom, where the talks were held, debatable tactics were the order of the day. During prolonged discussions over POWs, for example, the United States sought a propaganda victory by encouraging many reluctant, as well as eager, North Korean and Chinese prisoners to defect. This undermined both the letter and the spirit of the Geneva Convention, which guaranteed the return of all POWs. On these points, Whelan's determination to be concise prevents him from presenting additional detail.

Many of these machinations had their roots in U.S. domestic politics. The invasion of South Korea, according to Whelan, prompted "the vast majority" of U.S. citizens to support "extreme [counter-] measures." The public initially responded to the intervention with "relief and unity," which sent Truman's popularity soaring. But each month brought less certainty about the issues. U.S. citizens found themselves caught between a presi-

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dent who wanted to be seen as standing up to communist aggression and the era's outrageous anticommunist ranting by Republicans and Democrats alike. President Truman's determination to limit the war, while building up NATO to meet the Soviet threat, also perplexed voters. The prolonged imbroglio over the POWs, as thousands died, caused "confusion and frustration" all over the nation. Here is another point Whelan could have explored further, to show the shifts in public opinion, but did not. Polling data indicate that the Korean "police action" became at least as unpopular as Vietnam was after the Tet offensive. Whelan mentions one possible cause: a public guilty about living the good life while sending its sons off to die.

Another source of the discontent may have been American ignorance about emerging Asian nationalism. John Osborn, writing in *Life* (August 1950), warned that Korea would be "an ugly war, perhaps the ugliest that Americans have ever had to fight." He feared the consequences of interjecting U.S. soldiers into an Asian civil war. What were Americans, unaware of Korean history, to make of what Osborn called the "messianic and monomaniacal"

South Korean President Syngman Rhee, the man who openly manipulated elections and organized demonstrations against peace plans? Americans, for the most part, knew equally little about the animosity between Koreans and Japanese, failing to understand why the emerging U.S. alliance with Japan rankled Korean sensitivities. Finally, the U.S. public had difficulty understanding how a communist like North Korean leader Kim Il Sung could be both a patriot and a Marxist.

For Whelan, the Korean war was a "turning point" in the Cold War, leading the United States to form alliances and build an enormous defense establishment. But it "failed to teach the United States . . . vital lessons." In the end, "the Korean War resolved nothing"—it merely intensified the Cold War. To the hundreds of thousands of Korean War veterans still waiting for their national monument, this will be an unacceptable conclusion. But for the rest of us, it may be the beginning of wisdom on the meaning of the Cold War. ■

Bruce Zellers, a lecturer in history at Oakland University in Rochester, Michigan, is writing a book on Korean War veterans.

Every cloud has a silver lining

With the Cold War behind us, long-held secrets of the nuclear era are beginning to emerge—the sorry and dangerous state of the Soviet nuclear weapons complex, for example. But a few American tales are also beginning to be told, and recent stories by former nuclear officers give humorous, if sobering clues about the early days. The saga of the Regulus missile, recounted in the spring 1992 issue of *The Hook*, and in *Air & Space*, (April/May 1991) is a small sample.

The Regulus, the first Navy cruise missile designed to carry a nuclear warhead, was deployed from 1955 to 1964. It was neither reliable nor widely publicized. It still rankles Regulus veterans that the U.S.S. *George Washington*, which carried Polaris ballistic missiles, was much applauded when it went on patrol in November 1960, while the Regulus-equipped submarine, which was already patrolling in the Pacific, was ignored. The seven-ton-plus Regulus resembled a small

airplane: it was 33 feet long, had a 21-foot wing span, and its maximum range was 600 miles. It was launched from rails on certain heavy cruisers, aircraft carriers, and submarines. (The latter had to surface first.)

At one point Congress threatened to cancel the Regulus. The navy arranged a congressional junket, flying some members out to Barbers Point Naval Air Station in Hawaii to shore up support. "Bleachers were set up near the runway," said the author of the *Air & Space* article. "The plan was to have a bright red Regulus make a low pass right in front of the guests, wowing them with its control and speed. Right on schedule the Regulus made its approach. But to the horror of the event planners the bird suddenly veered left, rolled over on its back and zoomed behind the bleachers in inverted flight. The congressmen were delighted with this clever demonstration of agility. Back in Washington funding was restored."

In the vanguard

The H.M.S. *Vanguard*, the first British ballistic missile submarine that will carry the Trident II missile, was rolled out at the Vickers shipbuilding yard at Barrow-in-Furness on March 4. The British government has not announced when the submarine will become operational, but it is expected to be in late 1994. The *Vanguard* has 16 missile launch tubes rather than the 24 on U.S. Ohio-class submarines. Contracts have been let for Britain's second and third submarines, the *Victorious* and the *Vigilant*, and some preliminary funds have been spent for the fourth boat. The four-boat fleet, Britain's first with MIRVed (multiple independently targetable reentry vehicle) missiles, will eventually carry the majority of British warheads. There is some debate over how many warheads to put on each missile. A full complement would be eight, but critics say that after the dissolution of the Soviet

Union and the Warsaw Pact, fewer are needed.

The British will use U.S. Trident II missiles, but arm them with British-built warheads. British warhead designers work closely with their U.S. counterparts at Los Alamos and Livermore national laboratories, and test at the Nevada Test Site. Little information is available, but the British warhead is believed to be similar to the 100-kiloton W76 now on the U.S. Trident I. The British submarines will load Trident II missiles at King's Bay, Georgia, and, like Britain's Polaris submarines, their home port will be at Faslane, Scotland. A new warhead depot is being built at nearby Coulport, where the warheads are installed.

The U.S. Navy continues to service British missiles and re-entry vehicles. British submarines will offload missiles at Kings Bay and will receive "fresh" missiles from a common pool.

Beyond the fail-safe point

In a military-to-military exchange program, two Strategic Air Command B-52s and a KC-10A refueling tanker visited Dyagilevo Air Base near Ryazan, Russia, March 4-8. In return, two Soviet Bear H bombers landed at Barksdale Air Force Base in Louisiana on May 10.

Supersafe containers

Sandia National Laboratory counts as one of its major 1991 accomplishments the development of an improved nuclear weapon shipping container. The H1501A Accident Resistant Container is designed to withstand impacts of more than 100 miles per hour followed by exposure to a fuel fire of 90 minutes or more. The one-ton containers will be used by the army to remove tactical nuclear weapons from NATO sites in Europe.

All quiet on the French front

France has taken another step to reduce its future nuclear arsenal. Following decisions not to deploy the Hades short-range missile, to cancel the mobile S45 intermediate-range missile, and to stop nuclear testing for one year, the French navy chief of staff said that France will build four new ballistic missile submarines instead of the six originally planned. The first of the new Triomphant class submarines will be commissioned in 1995. Work has begun on a second, *Le Temeraire*. France currently has five active nuclear-powered ballistic-missile submarines, having recently retired its first missile submarine, *Le Redoutable*, after 20 years of service.

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ESTIMATED CIS (SOVIET) NUCLEAR STOCKPILE (JULY 1992)

The CIS stockpile has undergone enormous changes in the last year. On October 5, 1991, Soviet President Mikhail Gorbachev announced initiatives that, in conjunction with anticipated START reductions, called for significant cuts. On January 29, 1992, Russian President Boris Yeltsin announced further reductions. The table below reflects what is believed to be the "active" CIS nuclear stockpile—about 15,000 warheads. Another 12,000–15,000 warheads are either in storage or awaiting dismantlement and disposal. The situation is fluid and the exact status of certain weapon systems is ambiguous. Future initiatives and the START Treaty will further reduce the arsenal.

The withdrawal of thousands of nonstrategic weapons from Eastern Europe and outlying republics has occurred at a remarkable pace. As late as the attempted coup in the summer of 1991, there were still Soviet nuclear weapons in the eastern part of Germany. Today, no Soviet nuclear weapons are deployed abroad. Of the remaining Soviet arsenal, Russia retains 88 percent; the Ukraine, 7 percent; Kazakhstan, 5 percent; and Belarus, less than 1 percent. As these warheads are withdrawn from service, they will be returned to one of two weapons plants for disassembly—Sverdlovsk-45 and either Penza-19 or Zlatoust-36, the counterparts to the U.S. Pantex plant.

Estimating the size and composition of the former Soviet nuclear stockpile remains difficult, even with improved (but at times conflicting or ambiguous) information from officials of the new Russian government. The figure most often cited by U.S. and Russian spokesmen is 30,000 active and retired nuclear weapons.

Force developments and changes since last year include the retirement of SS-11, SS-13, and SS-17s ICBMs. SS-18 Mods 5 and 6 continue to replace older warhead/reentry vehicle types, but the program is near completion. Bear H and Blackjack bomber production has ceased, as has the construction of additional Delta IV or Typhoon ballistic missile submarines. The supersonic AS-X-19 ALCM and SS-NX-24 SLCM programs have been canceled.

President Yeltsin announced on January 29 that half of the surface-to-air missile stockpile would be eliminated. The strategic defense figures below reflect removal of all remaining nuclear SA-2, and one-third of SA-5 and SA-10 surface-to-air missiles. (The new SA-12 may carry a nuclear warhead.)

All non-strategic short-range missiles (FROG, SCUD, SS-12), and 152-, 203-, and 240-millimeter nuclear artillery will be retired. In addition, Yeltsin announced the elimination of half of the air force's tactical nuclear weapons. Some newer aircraft have been transferred to naval aviation. The Backfire C can carry up to ten AS-16 SRAMs, presumably replacing older AS-4s.

We believe that naval SAMs and coastal missiles are no longer nuclear-capable. The Bush-Yeltsin pledges indicate that nuclear weapons have been removed from surface ships and from attack and cruise missile submarines. Yeltsin also announced that one-third of sea-based non-strategic nuclear weapons would be retired. This year's table reflects these changes, eliminating mainly anti-air and anti-submarine weapons while retaining newer cruise missiles.

Category/type	Weapon system	Launchers	Warheads
Strategic offense			
ICBMs	SS-18, SS-19, SS-24, SS-25	925	5,600
SLBMs	SS-N-6, SS-N-8, SS-N-18, SS-N-20, SS-N-23	832	2,700
Bombers	Blackjack, Bear H (AS-15 ALCMs, AS-16 SRAMs, bombs)	100	1,300
Subtotal			9,600
Strategic defense			
ABMs	Improved Galosh, Gazelle, Gorgon	100	100
SAMs	SA-5, SA-10, (SA-12?)	1,350	1,350
Subtotal			1,450
Land-based nonstrategic			
Bombers and fighters	Backfire, Blinder, Badger, Fencer, Flogger, Fitter, Bear G (AS-4, AS-5, AS-6 ASMs, AS-16 SRAM, bombs)	2,000	2,000
Subtotal			2,000
Naval nonstrategic			
Attack aircraft	Backfire, Blinder, Badger, Fencer, Flogger, Fitter (AS-4, AS-5, AS-6 ASMs, bombs)	600	600
SLCMs	SS-N-9, SS-N-12, SS-N-19, SS-N-21, SS-N-22	900	500
ASW aircraft	May, Bear F, Hormone A, Helix A (depth bombs)	250	150
ASW weapons	SS-N-15, SS-N-16, FRAS-1, Type 65 and ET-80 torpedoes	500*	600
Subtotal			1,850
Total**			15,000

*Number of ships and submarines, not launchers. **Rounded. **ABM**: anti-ballistic missile; **ALCM**: air-launched cruise missile; **ASM**: air-to-surface missile; **ASW**: Anti-submarine warfare; **ICBM**: intercontinental ballistic missile; **SAM**: surface-to-air missile; **SLBM**: submarine-launched ballistic missile; **SLCM**: sea-launched cruise missile.

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